V15111

14-INCH

NON-INTERLACE COLOR MONITOR

HCM-437E/EV
HCM-438E/EV

TECHNICAL SERVICE MANUAL

HYUNDAI

CONTENTS

SAFETY PRECAUTION 1-1

X-RAY RADIATION PRECAUTION 2-1

SPECIFICATION 3-1

GENERAL INFORMATION 4-1

CONTROL DESCRIPTION 5-1

VIDEO INPUT SIGNAL 6-1

VIDEO INPUT TERMINAL 7-1

CONNECTING WITH EXTERNAL EQUIPMENT 8-1

TROUBLE SHOOTING 9-1

ADJUSTMENT METHOD 10-1

BLOCK DIAGRAM 11-1

SCHEMATIC DIAGRAM 12-1

PARTS LIST 13-1

PCB LAYOUT 14-1

EXPLODED VIEW AND SWIVEL 15-1

SAFETY PRECAUTION

WARNING :

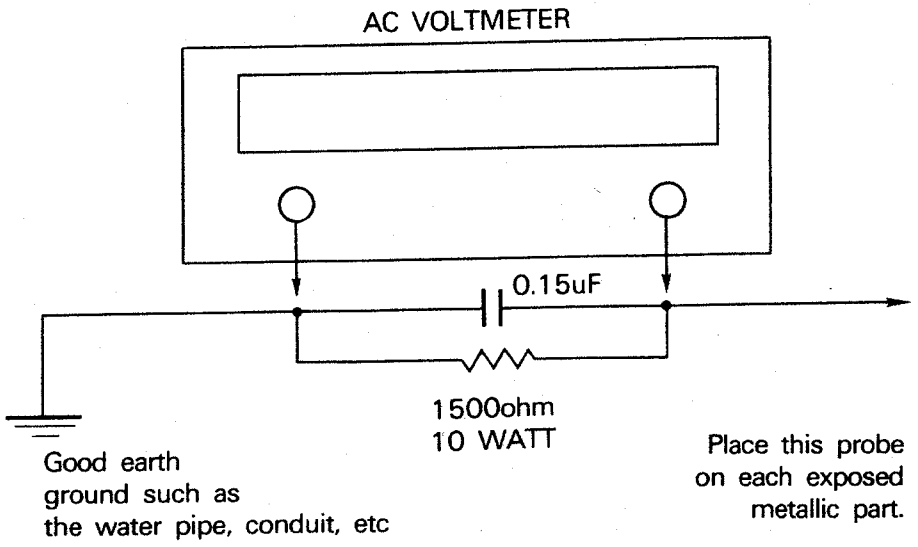
Service should not be attempted by anyone unfamiliar with the necessary precautions on this momitor.

The following are the necessary precautions to be observed before servicing.

1. Always discharge the picture tube to the CRT conductive coationg before handling the picture tube, The picture tube is highly evacuated and if broken, glass fragments will be violently exploded. Use shatterproof goggles and keep picture tube away from the bare baby while handling.

2. When replacing a chassis in the cabinet, always be certain that all the protective devices are put back in place, such as non-metallic control knobs, insulating covers, shields, isolation resistor-capacitor network etc.

3. Before returning the monitor to the customer, always perform an AC leakage current check on the exposed metallic parts of the cabinet, such as signal connectors, terminals, screw heads, metal overlays, control shafts etc, to be sure the monitor is safe to operate without danger of electrical shock. Pulg the AC line cord directly into a AC outlet(do not use line isolation transformer during this check). Use an AC voltmeter having 1500 ohm Per volt or more sensitivity in the following manner : Connect ground(water pipe, conduit, etc.) and the exposed metallic parts, one at a time. Measure the AC Voltage across the combination of 1500 ohm resistor and 0.15uF capacitor.
Reverse the AC plug at the AC outlet and repeat AC voltage measurements for each exposed metallic part. Voltage measure must not exceed 0.3 volts RMS. This corresporids to 0.2 milliamp AC. Any value exceeding this limit constitutes a potential shock hazard and must be corrected immediately.



INSTRUCTIONS TO USER

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a specifications in Subparts J of Part 15 FCC Rules, Which are designed to provide reasonable protection against such interference in a residential installation. however, there is not guarantee that interference will not occur in a particular installation.
If this equipment does cause interference to radio or televsion reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures.

* reorient the receiving antenna
* relocate the computer with respect to the receiver
* plug the computer into a different outlet so that computer and receiver are on different branch circuits.

X-RAY RADIATION PRECAUTION

1. Excessive high voltage can produce potentially hazardous X-RAY RADIATION. To avoid such hazards, the high voltage must be above the specified limit. The nominal value of the high voltage of this machine is 24.5KV at zero beam current(minimum brightness) under a 120V AC power source. The high voltage must not(under any circumstances) exceed 27 ± 1.5KV. Each time a monitor requires servicing, the high voltage should be checked following the high voltage check procedure on this manual. It is recommended the reading of the high voltage be recorded as a part of the service record. It is important to use an accurate and reliable high voltage meter.

2. This monitor is equipped with a protection circuit which prevents the monitor from producing and excessively high voltage even if the B+voltage increases abnormally. Each time the monitor is serviced, the protection circuit must be checked to determine that the circuit is properly functioning, following the protection circuit check procedure in this manual.

3. The only source of X-Ray RADIATION in this machine is the picture-tube.
   For continued X-Rey RADIATION protection, the replacement tube must be exactly the same type tube as specified in parts list.

4. Some parts in this monitor have special safety-related characteristics for X-Ray RADIATION protection.
   For continued safety, parts replacement should be undertaken only after referring to the product safety notice.

PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in this monitor have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them be nesessarily increased by using replacements rated for high vlotage, wattages, etc.

Replacement parts which have these special safety characteristics are identified in this manual ; electrical components having such features indentified in this manual ; electrical components having such features indentified by " ! " and in the replacement parts list and schematic diagram.

For contiued protection, replacement parts must be identical to those used in the original circuit. The use of substitute replacement parts which does not have the same safety characteristics as the factory recommended replacement parts shown in this service manual, may create shock, fire, X-RADIATION or other hazards.

SPECIFICATION

1. Power Source

* AC 100−120V, 60Hz 1.3A/AC 220−240V, 50Hz 0.7A(SELECTABLE)
  Voltage selector switch is installed in the bottom of cabinet

2. Input Signal

Analog R.G.B

3. Picture Tube

14″ Color Dispay Tube
0.28mm Dot (HCM-437/438E, EV)

4. Video Bandwidth

65MHz(At-3dB)

5. Display area

Horizontal : 240mm(USER CONTROL, MAX : 260mm)
Vertical : 180mm(USER CONTROL, MAX : OVER SCAN)

6. Resolution

MODE1 : 640Dots(H)×350Lines(V)
MODE2 : 720Dots(H)×400Lines(V)
MODE3 : 640Dots(H)×480Lines(V) (N/I)
MODE4 : 800Dots(H)×600Lines(V) (N/I)
MODE5 : 1024Dots(H)×768Lines(V) (Interlace)
MODE6 : 800Dots(H)×600Lines(V) (FLICKER FREE)
MODE7 : 640Dots(H)×480Lines(V) (FLICKER FREE)
MODE8 : 1024Dots(H)×768Lines(V) (Non-Interlace)

7. Display Color

262, 144 Colors

8. Horizontal frequency

31.5KHz/35.2KHz/35.5KHz/37.8KHz/48KHz/48.3KHz

9. Vertical Frequency

56Hz~90Hz

10. Dimensions

356(W)×361(H)×380(D)mm

11. Weights

Appr, 11Kg

GENERAL INFORMATION

1. Description

This 14″ color display monitor is operated in R, G, B, drive MODE input.

2. Operating instructions

2-1. External instructions

2-2. Front

Power Switch, Brightness, Contrast, H-PHASE, H-SIZE, V-Center, V-SIZE

2-3. Rear

Input connection, (AC, SIGNAL CABLE), SELECTOR SWITCH

2-4. 1 Service Instruction(internal controls)

V-Linearity, H-Width, Pincushion, Focus Screen, H-Hold, H-center, Sub Bright, Sub Contrast, Sub H-Size, Sub V-Size.

3. Electrical

3-1. AC Power Input

120V/230V(SELECTABLE)

This power supply is a 80 Watts multi output SMPS for monitor.

3-2. Video

Input : 0.7V p-p Analog signal (at 75 OHM TERMINATION)

Band width : 65MHz (-3db)

Polarity : Positive

Rise/Fall Time : <5nSec

3-3. Horizontal Drive

Level : TTL High : 2.4V

Low : 0.4V

Polarity : Negative or Positive

Frequency : 31.5KHz, 35.2KHz, 35.5KHz, 37.8KHz, 48KHz, 48.3KHz

3-4. Vertical Drive

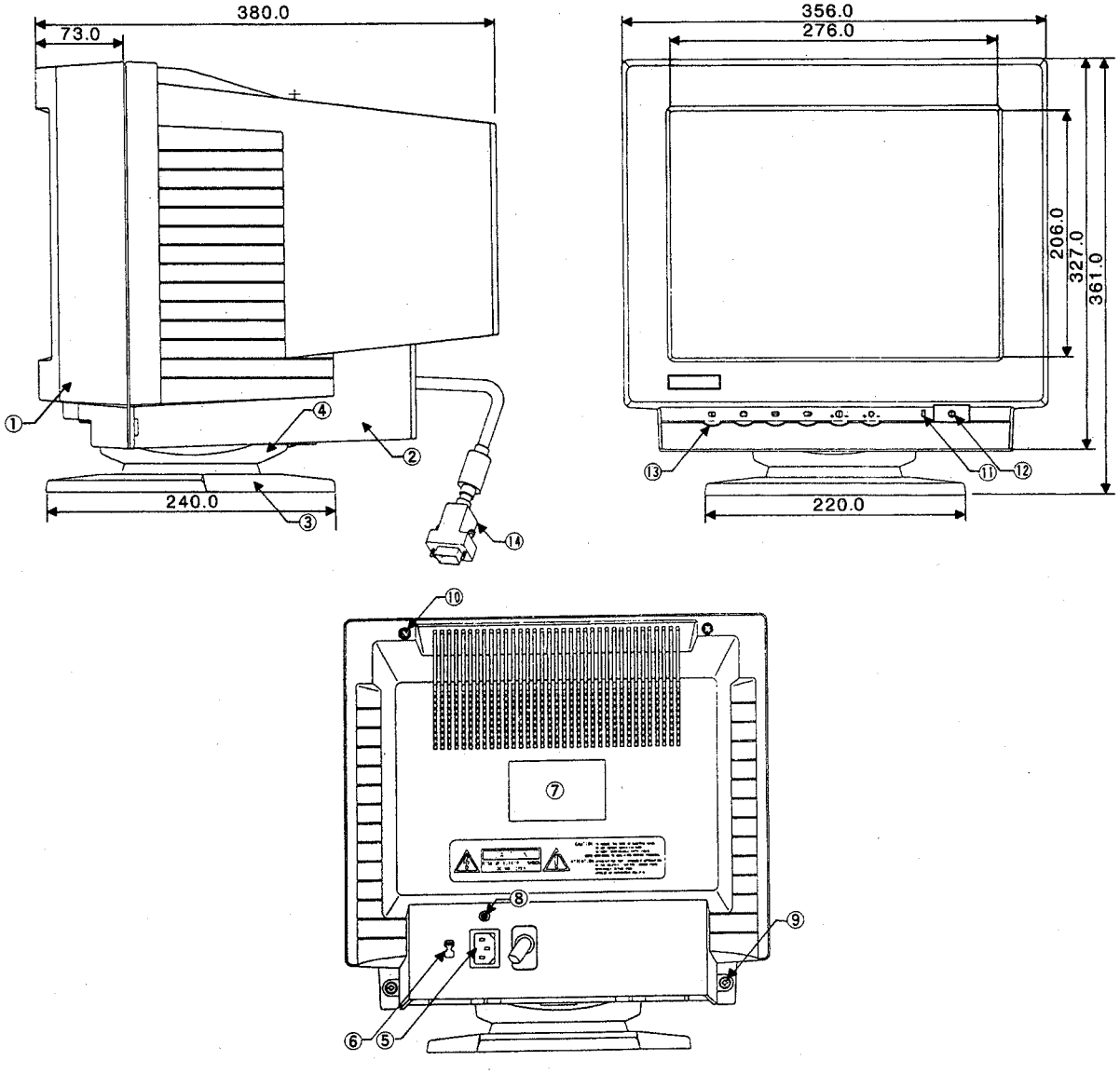
Level : TTL High : 2.4V

Low : 0.4V

Polarity : Negative or Positive

Frequency : 56Hz~90Hz

CONTROL DESCRIPTION



NO	PART NAME	PART NO.	Q'TY	REMARK
1	COVER FRONT	B4211503801C	1	
2	COVER REAR	B4211504901C	1	
3	SWIVEL BASE	B4211504001A	1	
4	SWIVEL UPPER	B4211504101A	1	
5	AC INLET		1	
6	VOLTAGE SELECTOR S/W		1	
7	PLATE SPEC		1	
8	SCREW BIN(+) M3×10	M11143010012	1	
9	SCREW ST2 TRS(+) 4×14	M13434014012	2	
10	SCREW ST2 BIN(+) 4×25	M13444025012	2	
11	LED LAMP	B4211504501C	1	
12	KNOB POWER	B4211504501A	1	
13	KNOB VOLUME	B4211504601B	6	
14	SIGNAL CABLE		1	

VIDEO INPUT SIGNAL

Recommended signals are shown below

1. Signal level

Video Level : 0 to 700 mV

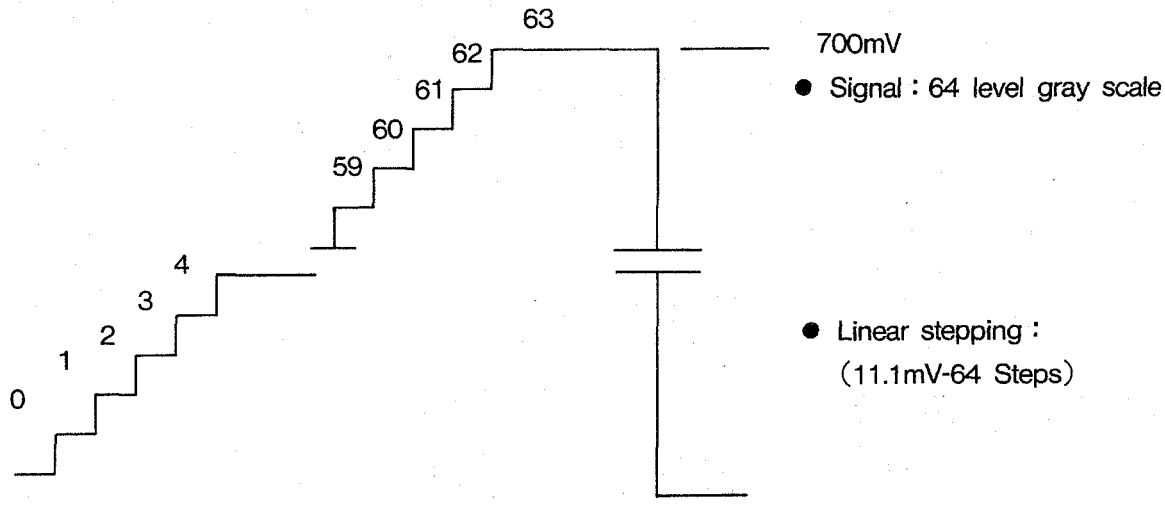
Polarity : Positive

Video Input : H-sync ; TTL level

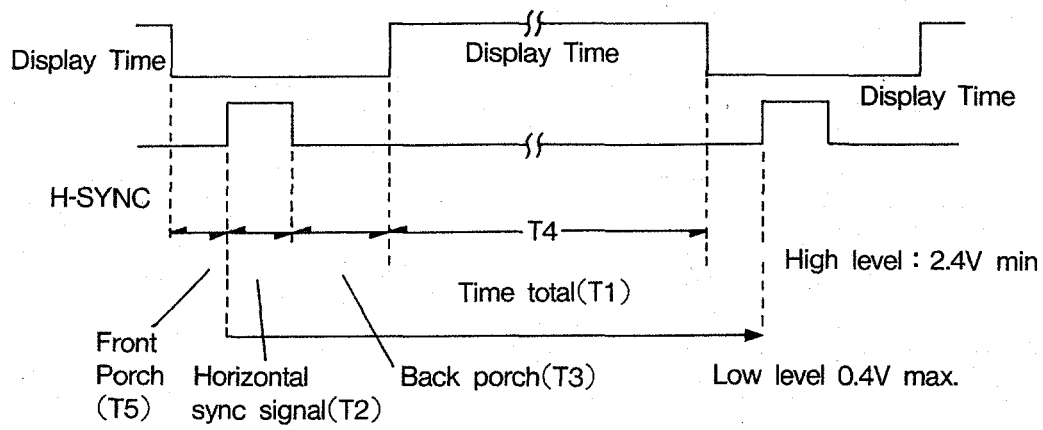
V-sync ; TTL level

2. Wave form

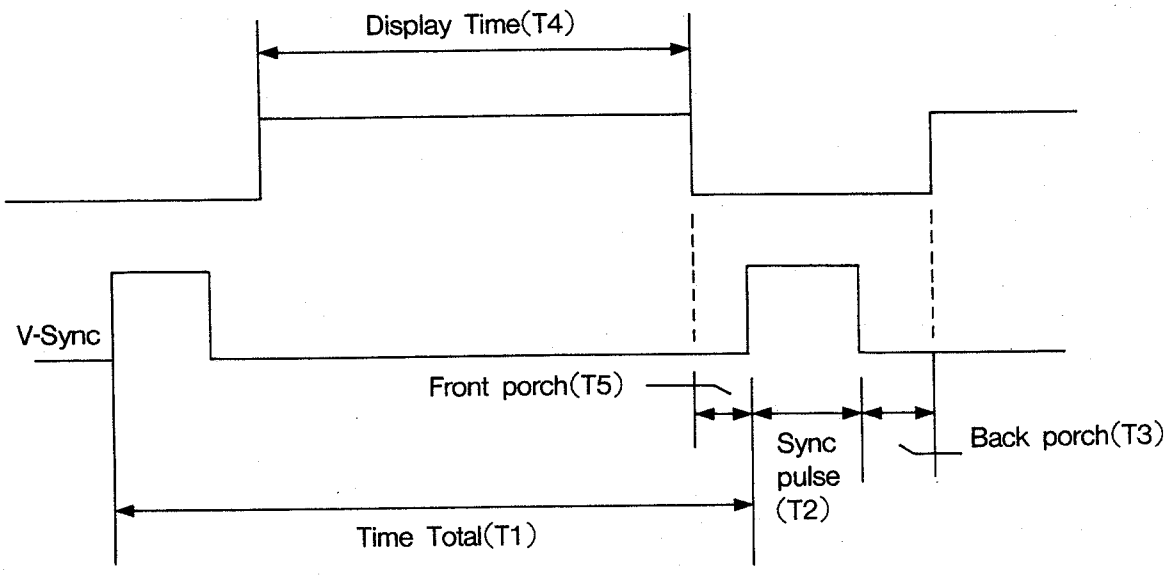
2-1. Video Input(R, G, B)



2-2. H-sync



2-3. V-sync



	640×350		720×400		640×480		800×600		1024×768	
	H(us)	V(mS)	H(us)	V(mS)	H(us)	V(mS)	H(us)	V(mS)	H(us)	V(mS)
T1	31.778	14.27	31.778	14.27	31.778	16.68	28.444	17.78	28.10	11.5
T2	3.77	0.064	3.77	0.064	3.77	0.064	2.0	0.06	3.91	0.113
T3	1.89	1.88	1.89	1.08	1.89	1.02	3.56	0.6	1.25	0.563
T4	25.17	11.126	25.17	12.716	25.17	15.246	22.22	17.07	22.760	10.81
T5	0.94	1.2	0.94	0.41	0.94	0.35	0.667	0.03	0.178	0.014
F	31.469KHz 70.08Hz		31.469KHz 70.08Hz		31.469KHz 59.94Hz		35.156KHz 56.25Hz		35.587KHz 87.0Hz	
P	POS	NEG	NEG	POS	NEG	NEG	DON'T CARE	DON'T CARE	DON'T CARE	DON'T CARE
	NON INTERLACE		NON INTERLACE		NON INTERLACE		NON INTERLACE		INTERLACE	

	800×600		640×480		1024×768		800×600	
	H(us)	V(mS)	H(us)	V(mS)	H(us)	V(mS)	H(us)	V(mS)
T1	26.40	16.579	26.413	13.735	20.675	16.52	20.80	13.853
T2	3.20	0.106	1.27	0.079	1.0	0.08	2.40	0.125
T3	2.20	0.607	4.603	0.740	2.957	0.54	1.280	0.478
T4	20.0	15.84	20.317	12.678	15.95	15.88	16.0	12.48
T5	1.0	0.026	0.762	0.238	0.75	0.22	1.120	0.77
F	37.879KHz 60.31Hz		37.86KHz 72.809Hz		48.363KHz 60.5Hz		48.077KHz 72.18Hz	
P	DON'T CARE	DON'T CARE	DON'T CARE	DON'T CARE	DON'T CARE	DON'T CARE	DON'T CARE	DON'T CARE
	NON INTERLACE		FLICKER FREE		NON INTERLACE		FLICKER FREE	

VIDEO INPUT TERMINAL

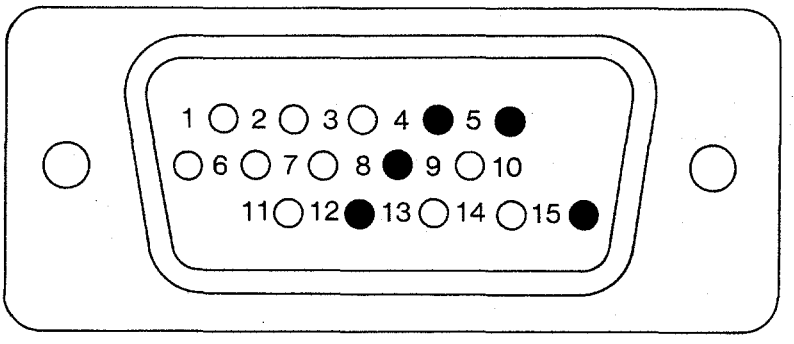
A 15 Pin D-sub connector is used as the input signal connector.

Pin and input signals are shown in the table below.

PIN CONNECTION

PIN NO.	CONNECTION
1	RED VIDEO INPUT
2	GREEN VIDEO INPUT
3	BLUE VIDEO INPUT
4	—
5	—
6	RED VIDEO GROUND
7	GREEN VIDEO GROUND
8	BLUE VIDEO GROUND
9	—
10	LOGIC GROUND
11	IDENT OUTPUT -CONNECTED TO PIN 10
12	—
13	H−SYNC
14	V−SYNC
15	—

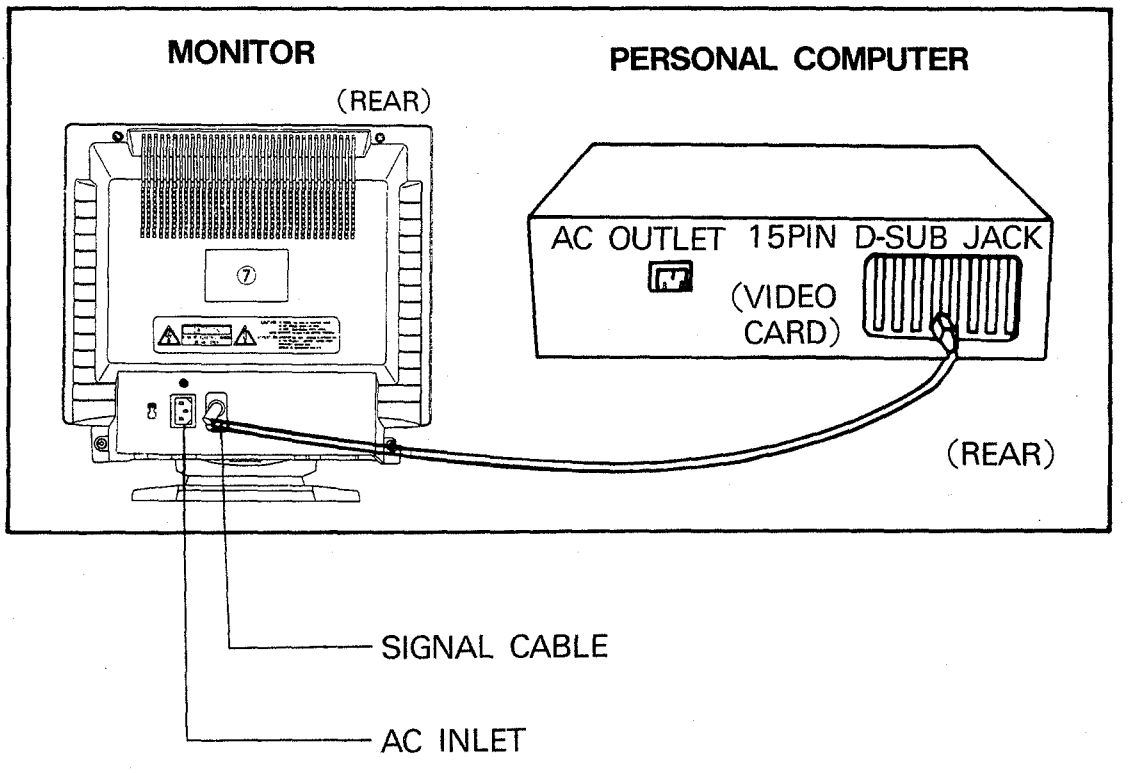
D-SUBMINIATURE CONNECTOR



CONNECTING WITH EXTERNAL EQUIPMENT

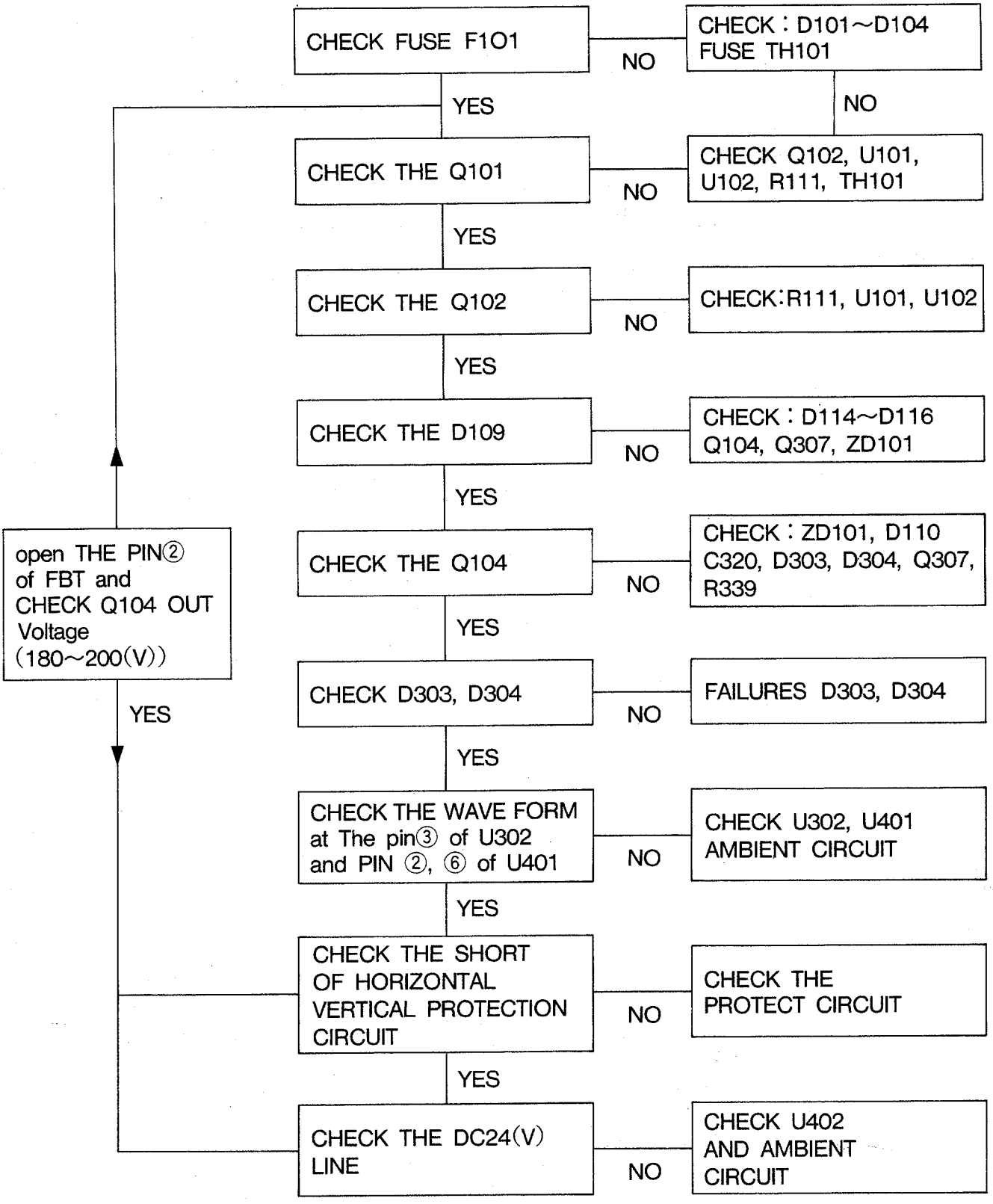
CAUTIONS

Be sure to turn off the power of your computer before connecting the monitor.

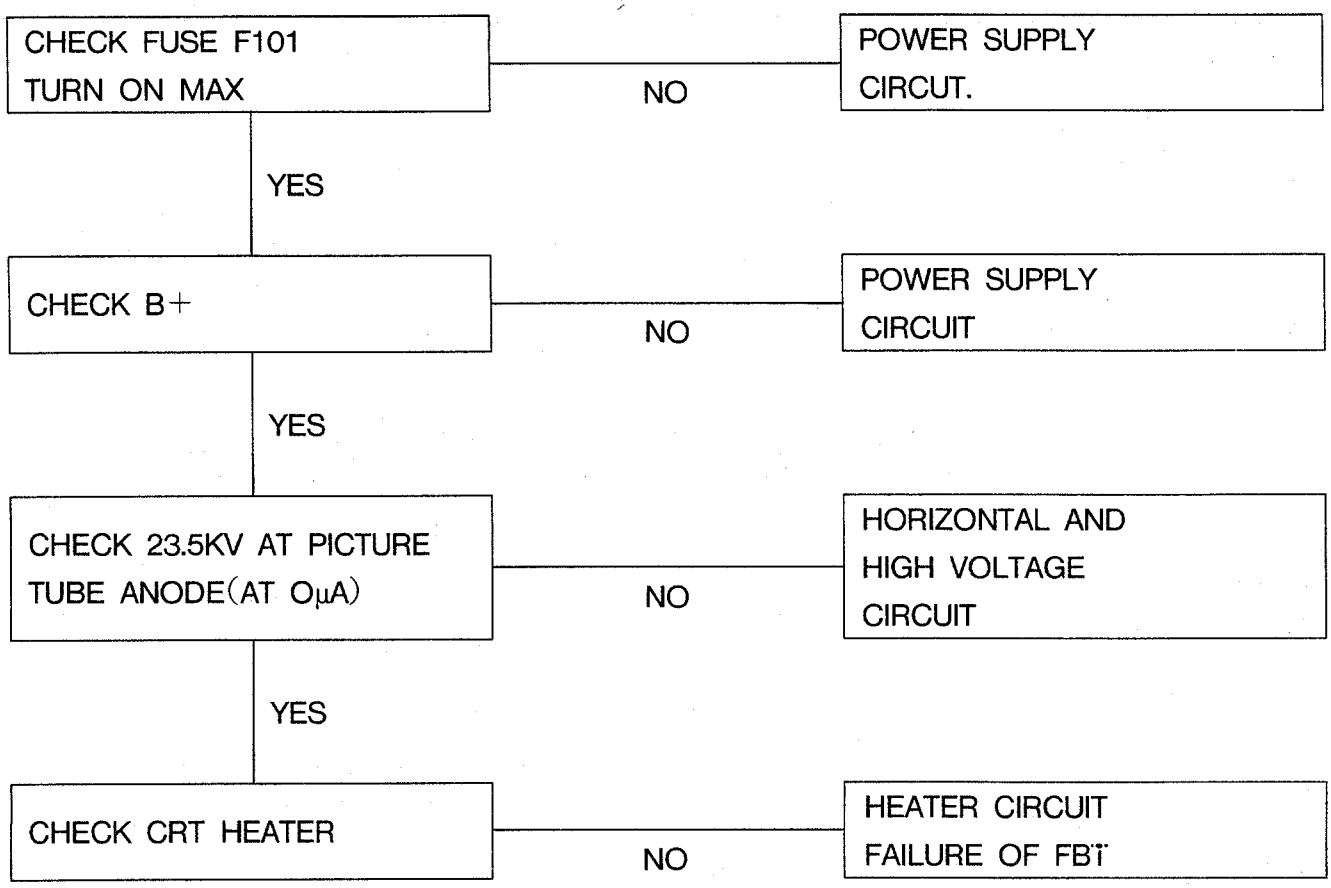


TROUBLE SHOOTING

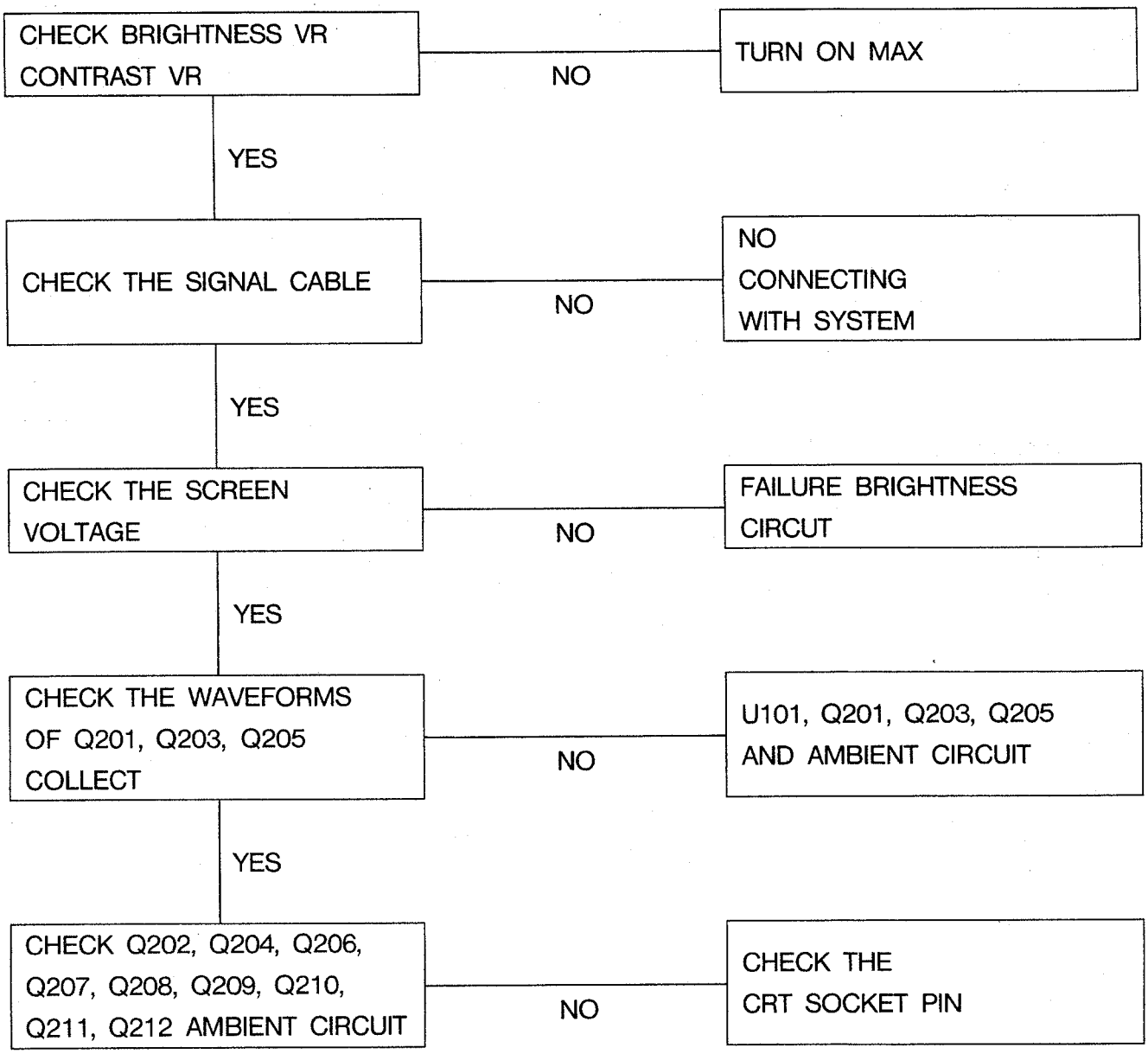
1. NO power



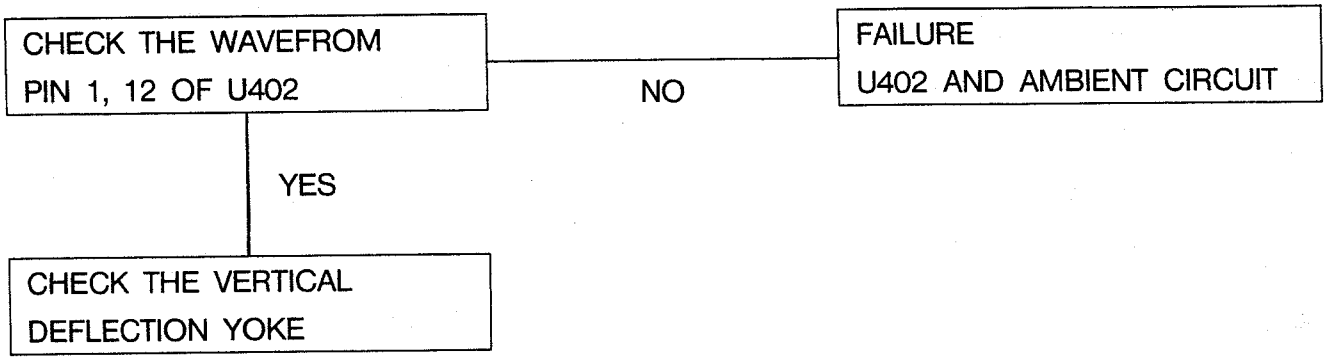
2. NO RASTER


CHECK FUSE F101
TURN ON MAX
NO
POWER SUPPLY
CIRCUT.
YES
CHECK B+
NO
POWER SUPPLY
CIRCUIT
YES
CHECK 23.5KV AT PICTURE
TUBE ANODE(AT OμA)
NO
HORIZONTAL AND
HIGH VOLTAGE
CIRCUIT
YES
CHECK CRT HEATER
NO
HEATER CIRCUIT
FAILURE OF FBT

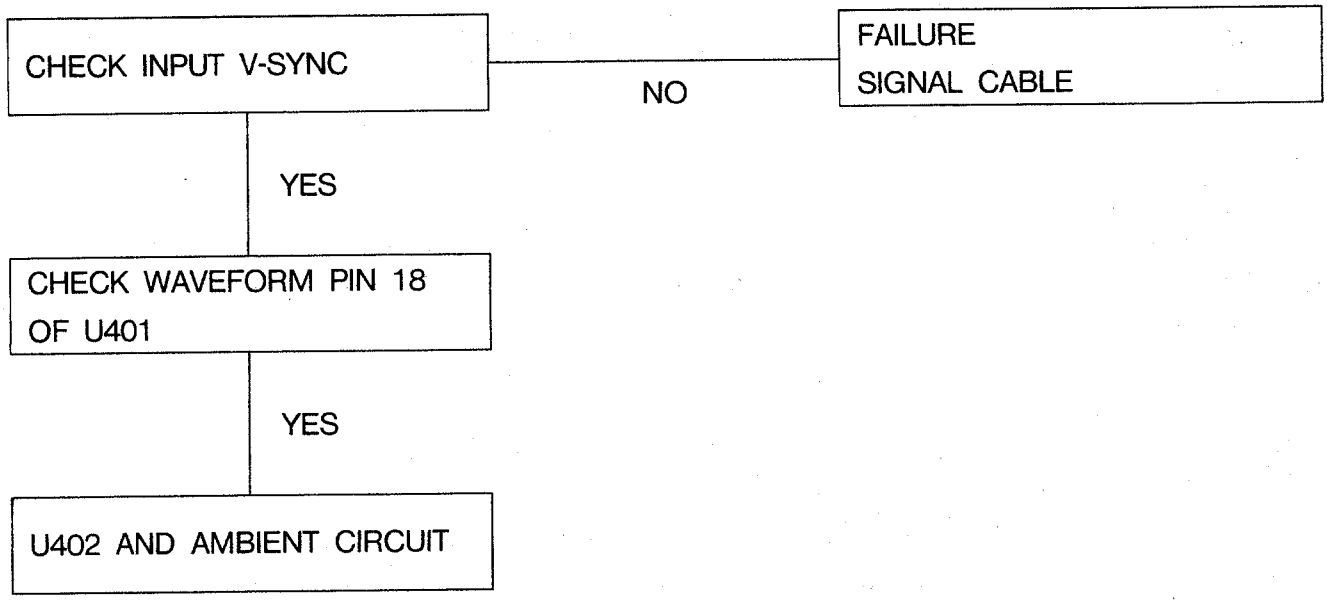
3. NO VIDEO


CHECK BRIGHTNESS VR
CONTRAST VR
NO
TURN ON MAX
YES
CHECK THE SIGNAL CABLE
NO
NO
CONNECTING
WITH SYSTEM
YES
CHECK THE SCREEN
VOLTAGE
NO
FAILURE BRIGHTNESS
CIRCUT
YES
CHECK THE WAVEFORMS
OF Q201, Q203, Q205
COLLECT
NO
U101, Q201, Q203, Q205
AND AMBIENT CIRCUIT
YES
CHECK Q202, Q204, Q206,
Q207, Q208, Q209, Q210,
Q211, Q212 AMBIENT CIRCUIT
NO
CHECK THE
CRT SOCKET PIN

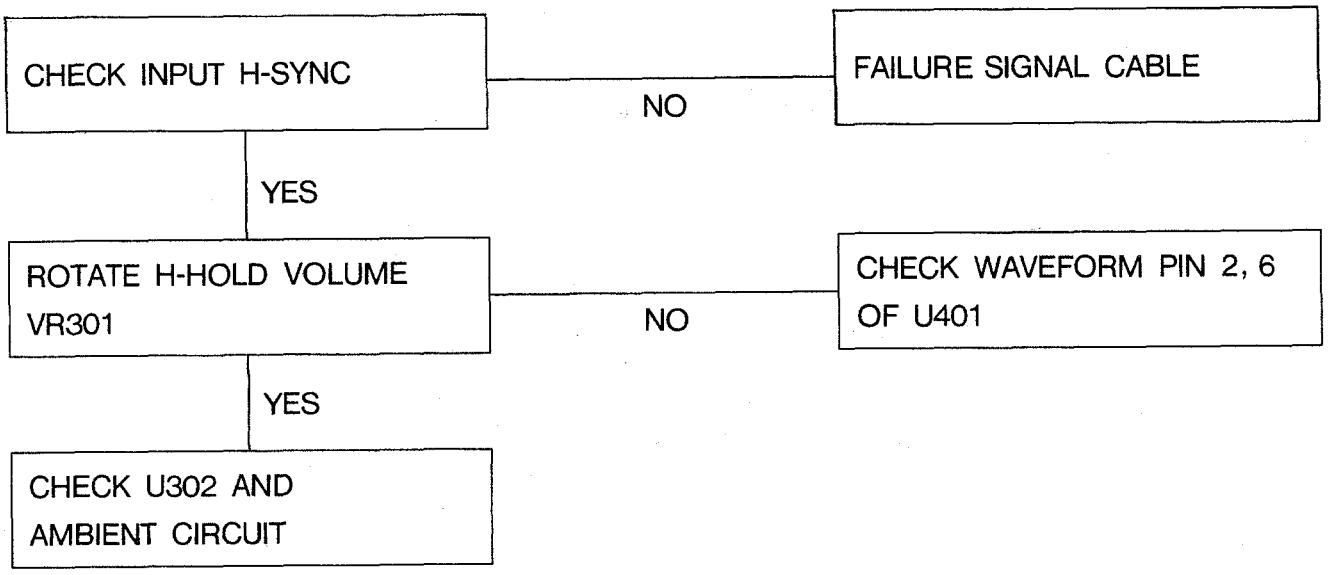
4. VETICAL DEFLECTION FAILURE



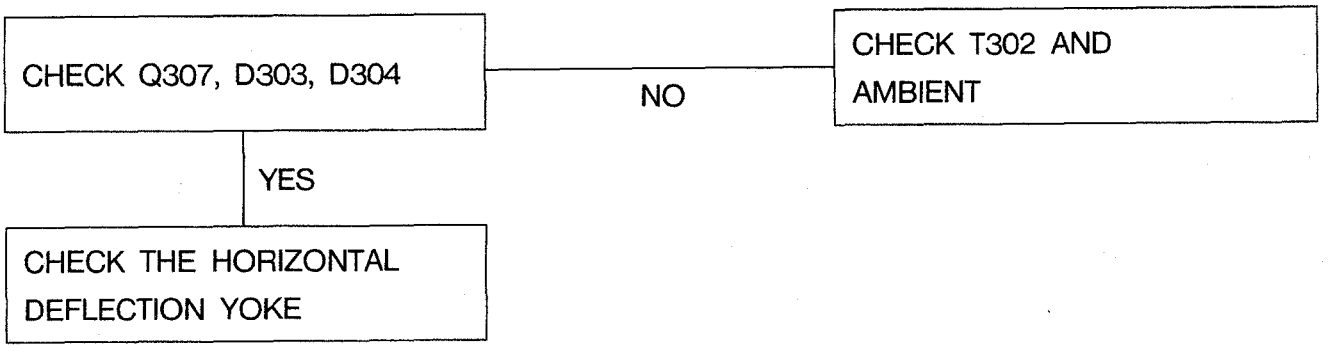
5. VERTICAL SYNC FAILURE



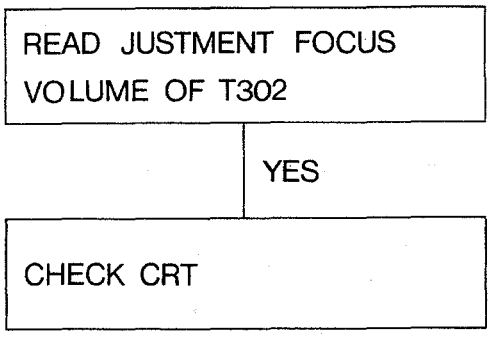
6. HORIZONTAL SYNC FAILURE



7. HORIZONTAL DEFLECTION FAILURE



8. FOCUS FAILURE



ADJUSTMENT METHOD

1. HORIZONTAL FREQUENCY ADJUST

1-1) Imput signal ; Fh=35KHz 800×600 cross hatch pattern

1-2) P405, P406 short

1-3) Adjust Horizental frequency to 35KHz ± 0.2KHz BY VR301

2. $^{+}$B ADJUST

2-1) Input Signal : Fh=31.5KHz 640×480 cross hatch pattern

2-2) Check point : D109(−)/D116(−), 185(V)± 5(V)/24(V)± 1(V)

3. V-SIZE / V-POSITION / V-LINEARITY ADJUST

3-1) Input Signal : Fh=31.5KHz 640×480 cross hatch pattern

3-2) Set user control VR to center click position

3-3) Adjust Linearity : VR403

3-4) Adjust V-size to 190± 3mm by VR401

3-5) Adjust V-position : USER VR402

4. PINCUSHION ADJUST

4-1) Input signal : Fh=31.5KHz 640×480 cross hatch pattern

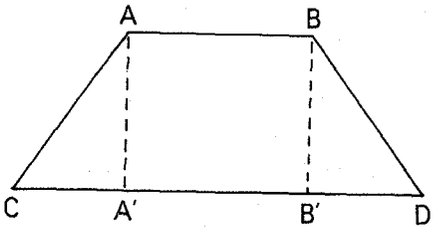
4-2) Adjust to 260± 5mm by user H-size VR(VR406)

4-3) Adjust pincushion : VR408

5. G · D ADJUST

5-1) Input signal : Fh=31.5KHz 640×480 cross hatch pattern

5-2) Adjust GD To go the follwing Condition SW401



C−A′ ≤ 2.0mm

D−B′ ≤ 2.0mm

6. H-SIZE ADJUST

6-1) Input signal : Fh=31.5KHz 640×480 cross hatch pattern

6-2) set user control VR to minimum position

6-3) Adjust size to 240± 3mm by VR407

7. H-PHASE ADJUST

7-1) Input Signal : Fh=31.5KHz 640×480 cross hatch pattern

7-2) Vary EXT VR303 so that video will be fitted to the center of Back Raster

8. G2 ADJUST

8-1) Input signal : Fh=31.5KHz 640×480 cross hatch pattern

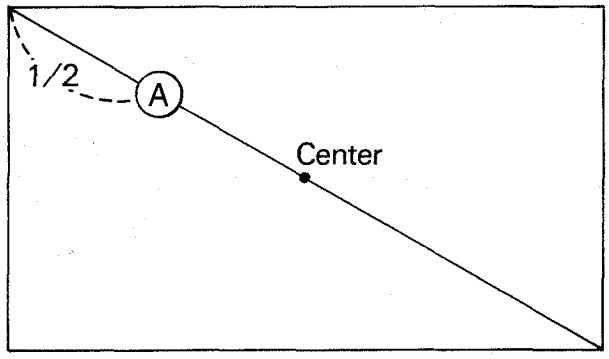
8-2) Adjust screen voltage to 400(V)± 10(V) by FBT Screen VR

9. Focus ADJUST

9-1) Input signal : Fh=31.5KHz 640×480 cross hatch pattern

9-2) Bright/Contrast USER VR MAX

9-3) Adjust Ⓐzone focus of picture 1 to be the best Condition



Picture 1

10. White Balance

10-1. Do aging the monitor over 20 minutes before adjustment.

10-2. Set the position of drive volume
R(VR201), B(VR202) and sub contrast(VR206) on the CRT PCB at the mechanical center.

10-3. Set the position of bias volume(VR203, VR204, VR205)
on the CRT PCB from the mechanical CENTER.

10-4. Set the position of sub bright volume(VR305)
on the main PCB at center

10-5. Adjust the screen voltage to 400± 10V by varying the screen volume of FBT.

10-6. In the black pattern, adjust the luminance to 2-3F/L by turning VR305, and then vary bias volume(VR203, VR204, VR205) so the co-ordinate of x, y equals 0.281 +/−0.03,0.311+/−0.03
At this time, use volume G(VR204), B(VR205) when red color on the screen appears, use volume R(VR203), B(VR205) when green color, use volume R(VR 203), G(VR204) when blue color.

10-7. Vary sub bright volume(VR305) so that the luminance is 0.7+/−0.2 FT/L after adjusting(12-6)

10-8. In the light white pattern of VGA mode, first of all, vary contrast volume(VR206) so that the luminance is 3.0, +/−0.5FT/L at bright MIN
Secondly, turn drive volume(VR201, VR202) to counterclockwise so that the co-ordinate of X, Y, is 0.281+/−0.03, 0.311+/−0.03.

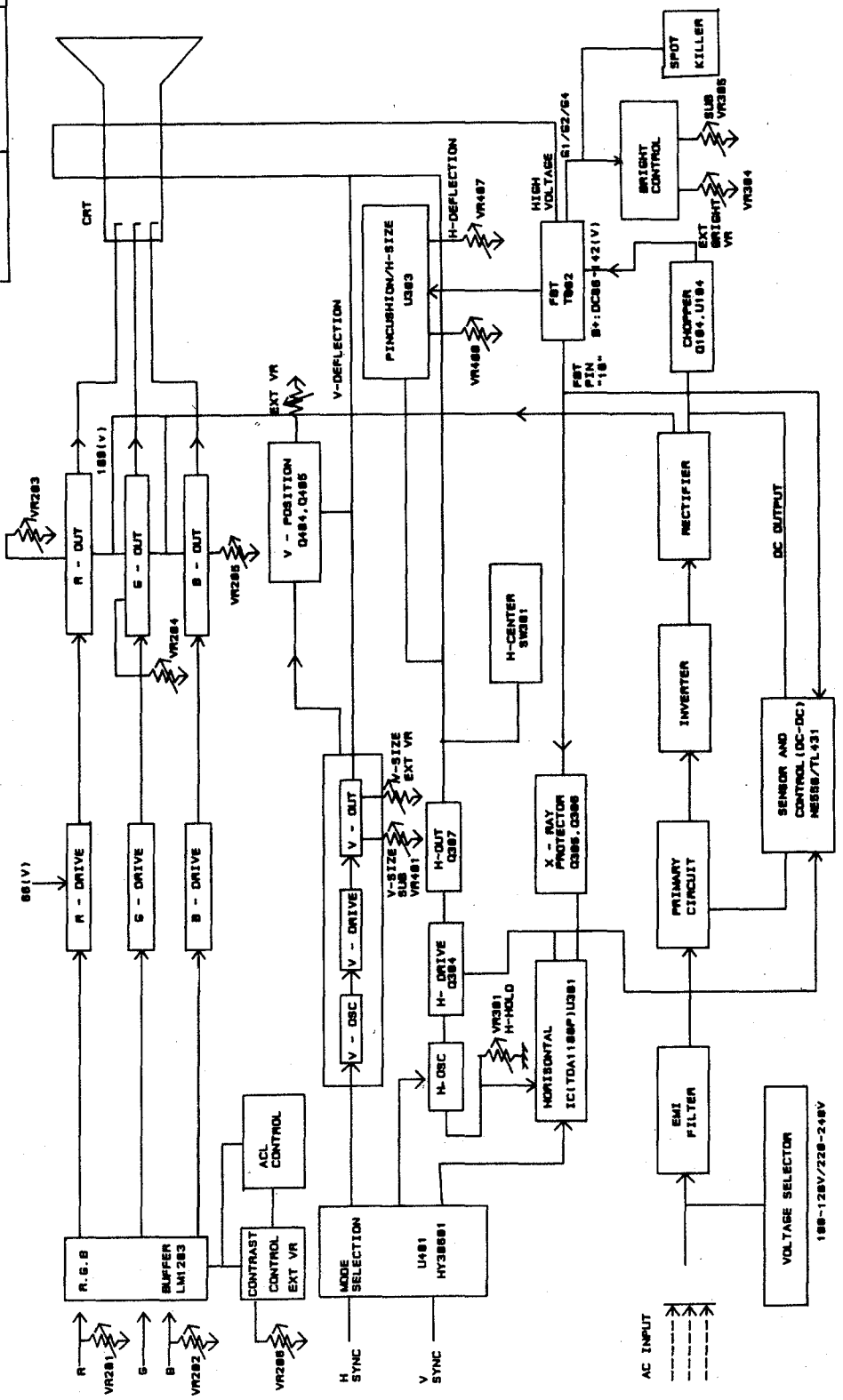
10-9. In the white pattern of VGA mode, vary sub-contrast volume(VR206) so that the luminance is 18 F/L

10-10. Be sure that the co-ordinate of X, Y is 0.28+/−0.03, 0.311+/−0.03 varying bright volume or contrast.

BLOCK DIAGRAM

X	Y	Z
3	7	E
3	8	E
3	7	EV
3	8	EV
2	7	A
2	8	A
2	7	AV
2	8	AV

BLOCK DIAGRAM HCM- 4XYZ



SCHEMATIC DIAGRAM

PRODUCT SAFETY NOTICE :

COMPONENTS MARKED WITH A⚠ HAVE SPECLAL CHARACTERISTICS IMPORTANT TO SAFETY.

BEFORE REPLACING ANY OF THESE COMPONENTS, READ CAREFULLY THE PRODUCT SAFETY NOTICE ON PAGE 6 OF THIS MANUAL.

DON'T DEGRADE THE SAFETY OF THE SET THROUGH IMPROPER SERVICING.

ABBREVIATIONS

RD R-CARBON
RS R-METAL, OXIDE
RX R-CEMENT WIRE
CQ C-POLYESTER
C-POLYROPYLENE
CS C-TANTAL, SOLID
CK C-CERAMIC, HK
CE C-ELECTROLYTIC
CC C-CERAMIC, TEMP

* THE VALVES OF COMPONENTS MAY BE CHANGED WITHOUT NOTICE FOR THE IMPROVEMENT OF PERFORMANCE.

PARTS LIST

1. MAIN BOARD

1-1. SEMICONDUCTORS

NO	RART CODE	DESCRIPTION	RANK	LOCATION
1	DNKLG114L	DIODE, LED KLG114L GREEN		D312
2	DTIN4002	DIODE, 100V 1.0A TAP		D117
3	DTIN4002	DIODE, 100V 1.0A TAP		D118
4	DTIN4002	DIODE, 100V 1.0A TAP		D307
5	DTIN4002	DIODE, 100V 1.0A TAP		D308
6	DTIN4002	DIODE, 100V 1.0A TAP		D405
7	DTIN4148	DIODE, 1N4148 TAPING		D111
8	DTIN4148	DIODE, 1N4148 TAPING		D112
9	DTIN4148	DIODE, 1N4148 TAPING		D113
10	DTIN4148	DIODE, 1N4148 TAPING		D301
11	DTIN4148	DIODE, 1N4148 TAPING		D302
12	DTIN4148	DIODE, 1N4148 TAPING		D306
13	DTIN4148	DIODE, 1N4148 TAPING		D313
14	DTIN4148	DIODE, 1N4148 TAPING		D314
15	DTIN4148	DIODE, 1N4148 TAPING		D315
16	DTIN4148	DIODE, 1N4148 TAPING		D401
17	DTIN4148	DIODE, 1N4148 TAPING		D402
18	DTIN4148	DIODE, 1N4148 TAPING		D403
19	DTIN4148	DIODE, 1N4148 TAPING		D404
20	DTIN4148	DIODE, 1N4148 TAPING		D406
21	DTIN4148	DIODE, 1N4148 TAPING		D407
22	DTIN4148	DIODE, 1N4148 TAPING		D408
23	DTIN4148	DIODE, 1N4148 TAPING		D409
24	DTIN4148	DIODE, 1N4148 TAPING		D410
25	DTIN4936	DIODE, 400V 1.0A 1N4936		D106
26	DTIN4936	DIODE, 400V 1.0A 1N4936		D108
27	DTIN4936	DIODE, 400V 1.0A 1N4936		D120
28	DTIN4936	DIODE, 400V 1.0A 1N4936		D310
29	DTIN5398	DIODE IN5398 TAPING		D101
30	DTIN5398	DIODE IN5398 TAPING		D102
31	DTIN5398	DIODE IN5398 TAPING		D103
32	DTIN5398	DIODE IN5398 TAPING		D104
33	DT2NH45	DIODE, T2NH45 TAP		D303

NO	RART CODE	DESCRIPTION	RANK	LOCATION
34	DT3JU41	DIODE, 3JU41 TAPING		D304
35	DTBA158	DIODE, BA158 TAP		D305
36	DTBA158	DIODE, BA158 TAP		D309
37	DTBA158	DIODE, BA158 TAP		D311
38	DTBA159	DIODE, BA159 1000V 1A		D105
39	DTBZX83-C7V5	DIODE, ZE 7.5V 0.5W 6%		ZD303
40	DTHER106	DIODE, HER106 600V 1A		D114
41	DTHER203	DIODE, HER203 200V 2A		D116
42	DTHER308	DIODE, HER308 1000V 3A		D109
43	DTRG1CV	DIODE, 1000V 0.7A TAPING		D110
44	DTS3L20U	DIODE, FR S3L20U		D115
45	DTUZ-5, 1BSB	DIODE, ZENNER UZ-5, 1BSB TA		ZD401
46	DTUZ-9, 1BSC	DIODE, ZENNER UZ-9, 1BSC TA		ZD101
47	TNBUH517	TR, BUH517 NPN		Q307
48	TNIRF9610	TR, MOS-FET 1RF9610 P-CHAN		Q104
49	TNKSC5030-0	TR, KSC5030-0		Q101
50	TTKSC2316Y	TR, KSC2316Y		Q102
51	TTKSC2316Y	TR, KSC2316Y		Q304
52	TTKSR1008	TR, KSR1008 TAP		Q406
53	TTKSR1008	TR, KSR1008 TAP		Q407
54	TTKSR1008	TR, KSR1008 TAP		Q408
55	TTKTA1015Y	TR, KTA1015Y		Q301
56	TTKTA1015Y	TR, KTA1015Y		Q305
57	TTKTA1015Y	TR, KTA1015Y		Q405
58	TTKTC1815Y	TR, KTC3198Y		Q105
59	TTKTC1815Y	TR, KTC3198Y		Q106
60	TTKTC1815Y	TR, KTC3198Y		Q302
61	TTKTC1815Y	TR, KTC3198Y		Q303
62	TTKTC1815Y	TR, KTC3198Y		Q306
63	TTKTC1815Y	TR, KTC3198Y		Q308
64	TTKTC1815Y	TR, KTC3198Y		Q309
65	TTKTC1815Y	TR, KTC3198Y		Q401
66	TTKTC1815Y	TR, KTC3198Y		Q402
67	TTKTC1815Y	TR, KTC3198Y		Q403
68	TTKTC1815Y	TR, KTC3198Y		Q404
69	UHY30601A	IC, ASIC		U401
70	UHY30601B	IC, ASIC 20P HY30601B		U401
71	ULM7812CT	IC, VOLTAGE REGULATOR, LM7		U105
72	UMCT2201Z	PHOTO COUPLER MCT2201Z		U101

NO	RART CODE	DESCRIPTION	RANK	LOCATION
73	UNE556	IC, NE556 DUAL. TIMER		U104
74	UTDA1180P	IC, TDA1180P		U301
75	UTDA1675A	IC, TDA1675A		U402
76	UTDA4950	IC, TDA4950		U303
77	UTL431CLP	IC TL431CLP/UA431		U102
78	UTL431CLP	IC TL431CLP/UA431		U103
79	WNTB1H1300BK	HISH-TUBE, HSP-M2/SUMI-F2		
80	E42076011080	SILICON RUB, 30*55 DR145A8		Q101
81	E42076011120	SILICON RUB, 13*18 DR230		Q104
82	B4211005201A	FENCE SHIELD, FBT		Q307

1-2. CAPACITORS

NO	RART CODE	DESCRIPTION	RANK	LOCATION
83	CE04BT1C470M	CAP-EL, SMS 16V 47UF M		C322
84	CE04BT1C470M	CAP-EL, SMS 16V 47UF M		C334
85	CE04BT1C470M	CAP-EL, SMS 16V 47UF M		C411
86	CE04BT1C470M	CAP-EL, SMS 16V 47UF M		C423
87	CE04BT1E100M	CAP-EL, SMS 25V 10UF M		C139
88	CE04BT1E101M	CAP-EL, SMS 25V 100UF M		C419
89	CE04BT1E102M	CAP-EL, SMS 25V 1000UF M		C412
90	CE04BT1E220M	CAP-EL, SMS 25V 22UF M		C131
91	CE04BT1E471M	CAP-EL, SMS 25V 470UF M		C128
92	CE04BT1H010M	CAP-EL, SMS 50V 1UF M		C118
93	CE04BT1H010M	CAP-EL, SMS 50V 1UF M		C125
94	CE04BT1H010M	CAP-EL, SMS 50V 1UF M		C309
95	CE04BT1H010M	CAP-EL, SMS 50V 1UF M		C321
96	CE04BT1H010M	CAP-EL, SMS 50V 1UF M		C327
97	CE04BT1H010M	CAP-EL, SMS 50V 1UF M		C417
98	CE04BT1H100M	CAP-EL, SMS 50V 10UF M		C337
99	CE04BT1H100M	CAP-EL, SMS 50V 10UF M		C427
100	CE04BT1H220M	CAP-EL, SMS 50V 22UF M		C312
101	CE04BT1H2R2M	CAP-EL, SMS 50V 2.2UF M		C140
102	CE04BT1H3R3M	CAP-EL, SMS 50V 3.3UF M		C111
103	CE04BT1H3R3M	CAP-EL, SMS 50V 3.3UF M		C113
104	CE04BT1H3R3M	CAP-EL, SMS 50V 3.3UF M		C132
105	CE04BT1H3R3M	CAP-EL, SMS 50V 3.3UF M		C331
106	CE04BT1HR22M	CAP-EL, SMS 50V 0.22UF M		C306
107	CE04BT1HR22M	CAP-EL, SMS 50V 0.22UF M		C416
108	CE04BT1HR47M	CAP-EL, SMS 50V 0.47UF M		C307

NO	RART CODE	DESCRIPTION	RANK	LOCATION
109	CE04BT1V101M	CAP-EL, SMS 35V 100UF M		C414
110	CE04BT1V221M	CAP-EL, SMS 35V 220UF M		C409
111	CE04BT1V470M	CAP-EL, SMS 35V 47UF M		C133
112	CE04BT1V471M	CAP-EL, SMS 35V 470UF M		C130
113	CE04BT1V471M	CAP-EL, SMS 35V 470UF M		C408
114	CE04BT2A470M	CAP-EL, SMS 100V 47UF M		C109
115	CE04BT2A470M	CAP-EL, SMS 100V 47UF M		C127
116	CE04BT2C100M	CAP-EL, SMS 160V 10UF M		C320
117	CE04BT2C101M	CAP-EL, SMS 160V 100UF M		C116
118	CE04BT2E010M	CAP-EL, SMS 250V 1UF M		C324
119	CE04BT2E010M	CAP-EL, SMS 250V 1UF M		C328
120	CE04BT2E101M	CAP-EL, SMS 250V 100UF M		C115
121	CE04BT2E2R2M	CAP-EL, SMS 250V 2.2UF M		C325
122	CE69PN2E221M	CAP-EL, SMS 250V 220UF M		C106
123	CE69PN2E221M	CAP-EL, SMS 250V 220UF M		C107
124	CF93MN2A224J	CAP-MPE, 100V 0.22UF J		C413
125	CF93MN2E104J	CAP-MPE, 250V 0.1UF J		C117
126	CF93PN2E104J	CAP-MPP, 250V 0.1UF J		C333
127	CF93PN2E474J	CAP-MPP, 250V 0.47UF J		C317
128	CF93PN2E824J	CAP-MPP, 250V 0.82UF J		C316
129	CK45BT1H101K	CAP-CD, 50V 100PF K		C301
130	CK45BT1H101K	CAP-CD, 50V 100PF K		C330
131	CK45BT1H101K	CAP-CD, 50V 100PF K		C335
132	CK45BT1H101K	CAP-CD, 50V 100PF K		C336
133	CK45BT1H121K	CAP-CD, 50V 120PF K TAP		C123
134	CK45BT1H121K	CAP-CD, 50V 120PF K TAP		C124
135	CK45BT1H222K	CAP-CE, 50V 2200PF K		C430
136	CK45BT1H331K	CAP-CE, 50V 330PF K		C424
137	CK45BT1H681K	CAP-CD, 50V 680PF K		C410
138	CK45BT2H101K	CAP-CD, 500V 100PF K TAP		C114
139	E42007002070	CAP-CD, 7150F 472M VA1-KC		C102
140	E42007002070	CAP-CD, 7150F 472M VA1-KC		C103
141	E42007002090	CAP-CD, DE7150FZ103PVA1-KC		C136
142	E42007002090	CAP-CD, DE7150FZ103PVA1-KC		C137
143	E42007009090	CAP-X, 250VAC 0.22UF KNB15		C104
144	E42007009090	CAP-X, 250VAC 0.22UF KNB15		C105
145	CK45BT2H103K	CAP-CD, 500V 0.01UF K		C108

NO	RART CODE	DESCRIPTION	RANK	LOCATION
146	CK45BT2H331K	CAP-CD, 500V 330PF K TAP		C129
147	CK45BT2H471K	CAP-CD, 500V 470PF K TAP		C311
148	CK45BT3A102K	CAP-CD, 1KV 1000PF 10%		C318
149	CQ92BT1H472J	CAP-PE, 50V 4700PF J TAP		C120
150	CQ92BT1H472J	CAP-PE, 50V 4700PF J TAP		C122
151	CQ92BT2A102J	CAP-PE, 100V 0.001UF J		C119
152	CQ92BT2A102J	CAP-PE, 100V 0.001UF J		C420
153	CQ92BT2A103J	CAP-PE, 100V 0.001UF J		C121
154	CQ92BT2A103J	CAP-PE, 100V 0.001UF J		C304
155	CQ92BT2A104K	CAP-PE, 100V 0.1UF K TAP		C308
156	CQ92BT2A104K	CAP-PE, 100V 0.1UF K TAP		C403
157	CQ92BT2A104K	CAP-PE, 100V 0.1UF K TAP		C404
158	CQ92BT2A104K	CAP-PE, 100V 0.1UF K TAP		C406
159	CQ92BT2A104K	CAP-PE, 100V 0.1UF K TAP		C407
160	CQ92BT2A104K	CAP-PE, 100V 0.1UF K TAP		C415
161	CQ92BT2A104K	CAP-PE, 100V 0.1UF K TAP		C428
162	CQ92BT2A104K	CAP-PE, 100V 0.1UF K TAP		C429
163	CQ92BT2A472K	CAP-PE, 100V 0.0047UF		C426
164	CQ92BT2A473K	CAP-PE, 100V 0.047UF K		C418
165	CQ93PF3C222J	CAP-PP, 1.6KV 0.0022UF J		C313
166	CQ93PF3C222J	CAP-PP, 1.6KV 0.0022UF J		C315
167	CQ93PT3C562J	CAP-PP, 1.6KV 5600PF J		C314
168	CQ93PT1H152J	CAP-PP, 50V 1500PF J TAP		C305
169	CS05BT1VR33K	CAP-TT, 489D 334*9035AB		C405
170	CC45CT1H121J	CAP-CD, 50V 120PF J TAP		C310
171	CC45CT1H220J	CAP-CD, 50V 22PF J		C401
172	CC45CT1H220J	CAP-CD, 50V 22PF J		C402
173	CE04BT1C101M	CAP-EL, SMS 16V 100UF M		C302
174	CE04BT1C220M	CAP-EL, SMS 16V 22UF M		C329
175	CE04BT1C221M	CAP-EL, SMS 16V 220UF M		C134
176	CE04BT1C330M	CAP-EL, SMS 16V 33UF M		C338
177	E44007010270	CAP-MCD, Z5U 50V 0.1UF Z		C135
178	E44007010270	CAP-MCD, Z5U 50V 0.1UF Z		C303
179	E44007010270	CAP-MCD, Z5U 50V 0.1UF Z		C323
180	E44007010270	CAP-MCD, Z5U 50V 0.1UF Z		C326
181	E44007010270	CAP-MCD, Z5U 50V 0.1UF Z		C332
182	E44007010270	CAP-MCD, Z5U 50V 0.1UF Z		C422
183	E44007010270	CAP-MCD, Z5U 50V 0.1UF Z		C425

1-3. RESISTORS

NO	RART CODE	DESCRIPTION	RANK	LOCATION
184	RN-4POTO682F	RES-MF, RN 1/4W 6.8K OHM F		R306
185	RN-4POTO752F	RES-MF, 7.5K OHM 1/4W F		R419
186	RN-4POT1472F	RES-MF, RN 1/4W 14.7K OHM F		R301
187	RN-4POT1603F	RES-MF, 1/4W 160K OHM F		R407
188	RN-4POT1962F	RES-MF, RN 1/4W 19.6K OHM F		R302
189	RN-4POT2372F	RES-MF, RN 1/4W 23.7K OHM F		R131
190	RN-4POT2402F	RES-MF, 1/4W 24K OHM F		R336
191	RN-4POT2491F	RES-MF, RN 1/4W 2.49K OHM F		R139
192	RN-4POT2611F	RES-MF, RN 1/4W 2.61K OHM F		R130
193	RN-4POT2753F	RES-MF, 1/4W 275K OHM F		R405
194	RN-4POT2872F	RES-MF, RN 1/4W 28.7K OHM F		R338
195	RN-4POT4221F	RES-MF, RN 1/4W 4.22K OHM F		R138
196	RS01PON0101J	RES-MOF, RS 1W 100 OHM J		R402
197	RS01PON01R0J	RES-MOF, 1 OHM 1W J		R340
198	RS01PON01R0J	RES-MOF, 1 OHM 1W J		R344
199	RS01POT0151J	RES-MOF RS 1W 150 OHM TAP		R435
200	RS01POT0560J	RES-MOF, RS 1W 56 OHM J		R333
201	RS01POT0R47J	RES-MOF, RS 1W 0.47 OHM J		R155
202	RS02POF0010J	RES-MOF, 2W 1 OHM J BU		R339
203	RS02POF0151J	RES-MOF, 2W 150 OHM J BULK		R108
204	RS02POF0182J	RES-MOF, RS 2W 1.8K OHM J		R114
205	RS02POF0182J	RES-MOF, RS 2W 1.8K OHM J		R153
206	RS02POF0200J	RES-MOF, 2W 20 OHM J		R144
207	RS02POF0221J	RES-MOF, 2W 220 OHM J BULK		R151
208	RS02POF0393J	RES-MOF, 2W 39K OHM J BU		R341
209	RS02POF0R82J	RES-MOF, 2W 0.82 OHM J BU		R111
210	RX03EON0101J	RES-CE, 3W 100 OHM J RAD		R334
211	RX5HEON0330J	RES-CE, 5W 33 OHM J		R141
212	RX5HEON0473J	RES-CE, 5W 47K OHM J		R106
213	RD-4POT0102J	RES-CF, RD 1/4W 1K OHM J		R426
214	RD-4POT0103J	RES-CF, RD 1/4W 10K OHM J		R124
215	RD-4POT0103J	RES-CF, RD 1/4W 10K OHM J		R150
216	RD-4POT0103J	RES-CF, RD 1/4W 10K OHM J		R320
217	RD-4POT0103J	RES-CF, RD 1/4W 10K OHM J		R325
218	RD-4POT0103J	RES-CF, RD 1/4W 10K OHM J		R326
219	RD-4POT0103J	RES-CF, RD 1/4W 10K OHM J		R327
220	RD-4POT0103J	RES-CF, RD 1/4W 10K OHM J		R352

NO	RART CODE	DESCRIPTION	RANK	LOCATION
221	RD-4POT0103J	RES-CF, RD 1/4W 10K OHM J		R437
222	RD-4POT0104J	RES-CF, RD 1/4W 100K OHM J		R445
223	RD-4POT0105J	RES-CF, RD 1/4W 1.0M OHM J		R401
224	RD-4POT0122J	RES-CF, RD 1/4W 1.2K OHM J		R129
225	RD-4POT0122J	RES-CF, RD 1/4W 1.2K OHM J		R142
226	RD-4POT0122J	RES-CF, RD 1/4W 1.2K OHM J		R146
227	RD-4POT0122J	RES-CF, RD 1/4W 1.2K OHM J		R328
228	RD-4POT0122J	RES-CF, RD 1/4W 1.2K OHM J		R439
229	RD-4POT0123J	RES-CF, RD 1/4W 12K OHM J		R448
230	RD-4POT0123J	RES-CF, RD 1/4W 12K OHM J		R453
231	RD-4POT0124J	RES-CF, RD 1/4W 120K OHM J		R443
232	RD-4POT0125J	RES-CF, RD 1/4W 1.2M OHM J		R410
233	RD-4POT0152J	RES-CF, RD 1/4W 1.5K OHM J		R119
234	RD-4POT0152J	RES-CF, RD 1/4W 1.5K OHM J		R123
235	RD-4POT0152J	RES-CF, RD 1/4W 1.5K OHM J		R126
236	RD-4POT0152J	RES-CF, RD 1/4W 1.5K OHM J		R149
237	RD-4POT0152J	RES-CF, RD 1/4W 1.5K OHM J		R304
238	RD-4POT0152J	RES-CF, RD 1/4W 1.5K OHM J		R330
239	RD-4POT0152J	RES-CF, RD 1/4W 1.5K OHM J		R346
240	RD-4POT0152J	RES-CF, RD 1/4W 1.5K OHM J		R420
241	RD-4POT0152J	RES-CF, RD 1/4W 1.5K OHM J		R454
242	RD-4POT0183J	RES-CF, RD 1/4W 18K OHM J		R447
243	RD-2POT0101J	RES-CF, RD 1/2W 100 OHM J		R112
244	RD-2POT0101J	RES-CF, RD 1/2W 100 OHM J		R135
245	RD-2POT0104J	RES-CF, RD 1/2W 100K OHM J		R103
246	RD-2POT0104J	RES-CF, RD 1/2W 100K OHM J		R104
247	RD-2POT0104J	RES-CF, RD 1/2W 100K OHM J		R116
248	RD-2POT0104J	RES-CF, RD 1/2W 100K OHM J		R133
249	RD-2POT0105J	RES-CF, RD 1/2W 1M OHM J		R101
250	RD-2POT0222J	RES-CF, RD 1/2W 2.2K OHM J		R430
251	RD-2POT0224J	RES-CF, RD 1/2W 220K OHM		R105
252	RD-2POT0224J	RES-CF, RD 1/2W 220K OHM		R113
253	RD-2POT02R2J	RES-CF, RD 1/2W 2.2 OHM J		R427
254	RD-2POT03R3J	RES-CF, RD 1/2W 3.3 OHM J		R331
255	RD-2POT0101J	RES-CF, RD 1/4W 100 OHM J		R356
256	RD-4POT0101J	RES-CF, RD 1/4W 100 OHM J		R415
257	RD-4POT0102J	RES-CF, RD 1/4W 1K OHM J		R127
258	RD-4POT0102J	RES-CF, RD 1/4W 1K OHM J		R143

NO	RART CODE	DESCRIPTION	RANK	LOCATION
259	RD-4POT0102J	RES-CF, RD 1/4W 1K OHM J		R152
260	RD-4POT0102J	RES-CF, RD 1/4W 1K OHM J		R308
261	RD-4POT0332J	RES-CF, RD 1/4W 3.3K OHM J		R451
262	RD-4POT0332J	RES-CF, RD 1/4W 3.3K OHM J		R455
263	RD-4POT0333J	RES-CF, RD 1/4W 33K OHM J		R322
264	RD-4POT0333J	RES-CF, RD 1/4W 33K OHM J		R343
265	RD-4POT0333J	RES-CF, RD 1/4W 33K OHM J		R425
266	RD-4POT0333J	RES-CF, RD 1/4W 33K OHM J		R458
267	RD-4POT0391J	RES-CF, RD 1/4W 390 OHM J		R329
268	RD-4POT0392J	RES-CF, RD 1/4W 3.9K OHM J		R315
269	RD-4POT0392J	RES-CF, RD 1/4W 3.9K OHM J		R348
270	RD-4POT0392J	RES-CF, RD 1/4W 3.9K OHM J		R351
271	RD-4POT0392J	RES-CF, RD 1/4W 3.9K OHM J		R436
272	RD-4POT0393J	RES-CF, RD 1/4W 39K OHM J		R353
273	RD-4POT0393J	RES-CF, RD 1/4W 39K OHM J		R452
274	RD-4POT0471J	RES-CF, RD 1/4W 470 OHM J		R429
275	RD-4POT0472J	RES-CF, RD 1/4W 4.7K OHM J		R121
276	RD-4POT0472J	RES-CF, RD 1/4W 4.7K OHM J		R305
277	RD-4POT0472J	RES-CF, RD 1/4W 4.7K OHM J		R307
278	RD-4POT0472J	RES-CF, RD 1/4W 4.7K OHM J		R335
279	RD-4POT0472J	RES-CF, RD 1/4W 4.7K OHM J		R347
280	RD-4POT0472J	RES-CF, RD 1/4W 4.7K OHM J		R422
281	RD-4POT0472J	RES-CF, RD 1/4W 4.7K OHM J		R438
282	RD-4POT0472J	RES-CF, RD 1/4W 4.7K OHM J		R441
283	RD-4POT0473J	RES-CF, RD 1/4W 47K OHM J		R122
284	RD-4POT0473J	RES-CF, RD 1/4W 47K OHM J		R449
285	RD-4POT0473J	RES-CF, RD 1/4W 47K OHM J		R457
286	RD-4POT0475J	RES-CF, RD 1/4W 4.7K OHM J		R342
287	RD-4POT0512J	RES-CF, RD 1/4W 5.1K OHM J		R309
288	RD-4POT0513J	RES-CF, RD 1/4W 51K OHM J		R312
289	RD-4POT0561J	RES-CF, RD 1/4W 560 OHM J		R354
290	RD-4POT0562J	RES-CF, RD 1/4W 5.6K OHM J		R349
291	RD-4POT0562J	RES-CF, RD 1/4W 5.6K OHM J		R446
292	RD-4POT0563J	RES-CF, RD 1/4W 56K OHM J		R411
293	RD-4POT0680J	RES-CF, RD 1/4W 68 OHM J		R110
294	RD-4POT0681J	RES-CF, RD 1/4W 680 OHM J		R128
295	RD-4POT0681J	RES-CF, RD 1/4W 680 OHM J		R319
296	RD-4POT0682J	RES-CF, RD 1/4W 6.8K OHM J		R416

NO	RART CODE	DESCRIPTION	RANK	LOCATION
297	RD-4POT0684J	RES-CF, RD 1/4W 680K OHM J		R414
298	RD-4POT0684J	RES-CF, RD 1/4W 680K OHM J		R424
299	RD-4POT0752J	RES-CF, RD 1/4W 7.5K OHM J		R137
300	RD-4POT0753J	RES-CF, RD 1/4W 75K OHM J		R409
301	RD-4POT0820J	RES-CF, RD 1/4W 82 OHM J		R332
302	RD-4POT0822J	RES-CF, RD 1/4W 8.2K OHM J		R317
303	RD-4POT0220J	RES-CF, RD 1/4W 22 OHM J		R117
304	RD-4POT0221J	RES-CF, RD 1/4W 220 OHM J		R136
305	RD-4POT0221J	RES-CF, RD 1/4W 220 OHM J		R154
306	RD-4POT0221J	RES-CF, RD 1/4W 220 OHM J		R314
307	RD-4POT0222J	RES-CF, RD 1/4W 2.2K OHM J		R120
308	RD-4POT0222J	RES-CF, RD 1/4W 2.2K OHM J		R125
309	RD-4POT0222J	RES-CF, RD 1/4W 2.2K OHM J		R318
310	RD-4POT0222J	RES-CF, RD 1/4W 2.2K OHM J		R440
311	RD-4POT0223J	RES-CF, RD 1/4W 22K OHM J		R434
312	RD-4POT0224J	RES-CF, RD 1/4W 220K OHM J		R140
313	RD-4POT0224J	RES-CF, RD 1/4W 220K OHM J		R345
314	RD-4POT0224J	RES-CF, RD 1/4W 220K OHM J		R412
315	RD-4POT0242J	RES-CF, RD 1/4W 2.4K OHM J		R428
316	RD-4POT0243J	RES-CF, RD 1/4W 24K OHM J		R444
317	RD-4POT0272J	RES-CF, RD 1/4W 2.7K OHM J		R303
318	RD-4POT0272J	RES-CF, RD 1/4W 2.7K OHM J		R418
319	RD-4POT0272J	RES-CF, RD 1/4W 2.7K OHM J		R460
320	RD-4POT0273J	RES-CF, RD 1/4W 27K OHM J		R313
321	RD-4POT0273J	RES-CF, RD 1/4W 27K OHM J		R403
322	RD-4POT0273J	RES-CF, RD 1/4W 27K OHM J		R413
323	RD-4POT0273J	RES-CF, RD 1/4W 27K OHM J		R442
324	RD-4POT02R2J	RES-CF, RD 1/4W 2.2 OHM J		R431
325	RD-4POT0301J	RES-CF, RD 1/4W 300 OHM J		R355
326	RD-4POT0332J	RES-CF, RD 1/4W 3.3K OHM J		R118
327	RD-4POT0332J	RES-CF, RD 1/4W 3.3K OHM J		R433
328	RD-4POT0332J	RES-CF, RD 1/4W 3.3K OHM J		R450
329	RD-4POT0822J	RES-CF, RD 1/4W 8.2K OHM J		R432
330	RD-4POT0824J	RES-CF, RD 1/4W 820K OHM J		R316
331	RD-4POT08R2J	RES-CF, RD 1/4W 8.2 OHM J		R324
332	RD-8POT0102J	RES-CF, RD 1/8W 1K OHM J		R461
333	RD-8POT0105J	RES-CF, RD 1/8W 1M OHM J		R401

NO	RART CODE	DESCRIPTION	RANK	LOCATION
334	RD-8POT0331J	RES-CF, 1/8W 330 OHM J TAP		R456
335	RD-8POT0391J	RES-CF, 1/8W 390 OHM		R350
336	RD-4POT0105F	RES-MF, 1/4W 1M OHM F		R404
337	RD-4POT0125F	RES-MF, RN 1/4W 1.2M OHM F		R406
338	RD-4POT0134F	RES-MF, 1/4W 130K OHM F		R311
339	RD-4POT0183F	RES-MF, RN 1/4W 18K OHM F		R337
340	RD-4POT0224F	RES-MF, RN 1/4W 220K OHM F		R408
341	RD-4POT0392F	RES-MF, RN 1/4W 3.9K OHM F		R321
342	RD-4POT0512F	RES-MF, RN 1/4W 5.1K OHM F		R417

1-4. VOLUMES

NO	RART CODE	DESCRIPTION	RANK	LOCATION
343	E42015033090	V-SEMI, B5K OHM CET068C		VR301
344	E42015033150	V-SEMI, B100K OHM CET068C		VR305
345	E42015033110	V-SEMI, B20K OHM CET068C		VR401
346	E42015033150	V-SEMI, B100K OHM CET068C		VR403
347	E42015033090	V-SEMI, B5K OHM CET068C		VR407
348	E42015033110	V-SEMI, B20K OHM CET068C		VR408
349	E42015038020	VOL-3BLOCK, 9PAI 25FC1		
350	E42015038030	VOL-3BLOCK, 9PAI 25FC0		

1-5. COIL & ETC

NO	RART CODE	DESCRIPTION	RANK	LOCATION
351	E42019040010	COIL-LINE, 11.8UH(20%)		L301
352	E42019042010	COIL, CENTER, 1MH 1.3 OHM		L302
353	E42019078020	COIL, CHOKE 500 UH 15%		L304
354	E42019079010	COIL, CHOKE, 4MH 15%		L103
355	E42019085010	COIL, CHOKE, 15MH 15%		L303
356	E42019099010	BEAD CORE		L401
357	E42076013010	FUSE CLIP, TAPING		F101
358	E42077047080	THERMISTOR, 5D-11		TH10
359	E42077048060	POSISTOR, 180N270		PH10
360	E42081116010	PCB, RAW 247*330*1.6T FR-1		
361	E42043029020	CONN POST 1PIN DEBP-230		P105
362	E42043029020	CONN POST 1PIN DEBP-230		P106
363	E42043029020	CONN POST 1PIN DEBP-230		P107
364	E42043029020	CONN POST 1PIN DEBP-230		P108
365	E42043029020	CONN POST 1PIN DEBP-230		P304

NO	RART CODE	DESCRIPTION	RANK	LOCATION
366	E42029020010	LINE FILTER, SQ20-03		L102
367	E42029021010	LINE FILTER, SQE24-13		L101
368	E4203102602A	TRANS, H-DRIVE, 120UH 18.2M		T301
369	E42031074010	TRANS, MAIN HSP-437		T101
370	E42043007010	CONN POST, 2P 5267-02A		P306
371	E42043007010	CONN POST, 2P 5267-02A		P307
372	E42043007020	CONN POST, 3P 5267-03A		P301
373	E42043007030	CONN POST, 4P 5267-04A		P302
374	E42043016020	CONN POST, 2P 5096-02C		P115
375	E42043029020	CONN POST 1PIN DEBP-230		P305
376	E42043029020	CONN POST 1PIN DEBP-230		P308
377	E42043029020	CONN POST 1PIN DEBP-230		P309
378	E42043029020	CONN POST 1PIN DEBP-230		P401
379	E42043029020	CONN POST 1PIN DEBP-230		P402
380	E42045208010	WIRE ASSY, RING 13CM GN/YE		P114
381	E42048044010	FBT, KFS-61107A		T302
382	E42043029020	CONN POST 1PIN DEBP-230		
383	E42022001010	CER RESONATOR, 3.58MHZ		CY401
384	E42025012050	FUSE, TIME LAG 19181 2.5A		
385	E42027014010	SELECT SWITCH, SLS-1301		SW301
386	E42027014010	SELECT SWITCH, SLS-1301		SW401
387	E42027020030	SWITCH PWR SDDLIP-ASP031		

2. CRT BOARD

2−1. SEMICONDUCTORS

NO	RART CODE	DESCRIPTION	RANK	LOCATION
388	DT1N4148	DIODE, 1N4148 TAPING		D201
389	DT1N4148	DIODE, 1N4148 TAPING		D202
390	DT1N4148	DIODE, 1N4148 TAPING		D203
391	DT1N4148	DIODE, 1N4148 TAPING		D204
392	DT1N4148	DIODE, 1N4148 TAPING		D205
393	DT1N4148	DIODE, 1N4148 TAPING		D206
394	DT1N4936	DIODE, 400V 1.0A 1N4936		D212
395	DTUZ-6.2BSB	DIODE, ZENER UZ-6.2BSB T		D207
396	DTZ30B	ZENER-DIODE, 30V TAPING		D208
397	DTZ30B	ZENER-DIODE, 30V TAPING		D209
398	DTZ30B	ZENER-DIODE, 30V TAPING		D210
399	TT2N5401CY	TR, 2N5401C-Y PNP SILICON		Q208

NO	RART CODE	DESCRIPTION	RANK	LOCATION
400	TT2N5401CY	TR, 2N5401C-Y PNP SILICON		Q210
401	TT2N5401CY	TR, 2N5401C-Y PNP SILICON		Q212
402	TT2N5551CY	TR, 2N5551C-Y		Q207
403	TT2N5551CY	TR, 2N5551C-Y		Q209
404	TT2N5551CY	TR, 2N5551C-Y		Q211
405	TT2SC3502E	TR, 2SC3502E		Q202
406	TT2SC3502E	TR, 2SC3502E		Q204
407	TT2SC3502E	TR, 2SC3502E		Q206
408	TTKTA1015Y	TR, KTA1015Y		Q213
409	TTKTC1815Y	TR, KTC3198Y		Q215
410	TTKTN2369	TR, KTN2369 TAP		Q201
411	TTKTN2369	TR, KTN2369 TAP		Q203
412	TTKTN2369	TR, KTN2369 TAP		Q205
413	ULM1203	IC, LM1203		U201

2-2. RESISTORS

NO	RART CODE	DESCRIPTION	RANK	LOCATION
414	RD-2POT0101J	RES-CF, RD 1/2W 100 OHM J		R252
415	RD-2POT0101J	RES-CF, RD 1/2W 100 OHM J		R253
416	RD-2POT0101J	RES-CF, RD 1/2W 100 OHM J		R254
417	RD-2POT0152J	RES-CF, RD 1/2W 1.5K OHM J		R255
418	RD-2POT0334J	RES-CF, RD 1/2W 330K OHM J		R259
419	RD-2POT0562J	RES-CF, RD 1/2W 5.6K OHM J		R258
420	RD-4POT0182J	RES-CF, RD 1/4W 1.8K OHM J		R256
421	RD-4POT0561J	RES-CF, RD 1/4W 560 OHM J		R231
422	RD-4POT0561J	RES-CF, RD 1/4W 560 OHM J		R232
423	RD-4POT0561J	RES-CF, RD 1/4W 560 OHM J		R233
424	RD-4POT0561J	RES-CF, RD 1/4W 560 OHM J		R234
425	RD-4POT0561J	RES-CF, RD 1/4W 560 OHM J		R235
426	RD-4POT0561J	RES-CF, RD 1/4W 560 OHM J		R236
427	RD-8POT0101J	RES-CF, RD 1/8W 100 OHM J		R216
428	RD-8POT0101J	RES-CF, RD 1/8W 100 OHM J		R222
429	RD-8POT0101J	RES-CF, RD 1/8W 100 OHM J		R228
430	RD-8POT0101J	RES-CF, RD 1/8W 100 OHM J		R242
431	RD-8POT0101J	RES-CF, RD 1/8W 100 OHM J		R244
432	RD-8POT0101J	RES-CF, RD 1/8W 100 OHM J		R246
433	RD-8POT0101J	RES-CF, RD 1/8W 100 OHM J		R262
434	RD-8POT0101J	RES-CF, RD 1/8W 100 OHM J		R263

NO	RART CODE	DESCRIPTION	RANK	LOCATION
435	RD-8POT0101J	RES-CF, RD 1/8W 100 OHM J		R264
436	RD-8POT0102J	RES-CF, RD 1/8W 1K OHM J		R212
437	RD-8POT0102J	RES-CF, RD 1/8W 1K OHM J		R218
438	RD-8POT0102J	RES-CF, RD 1/8W 1K OHM J		R225
439	RD-8POT0102J	RES-CF, RD 1/8W 1K OHM J		R237
440	RD-8POT0103J	RES-CF, RD 1/8W 10K OHM J		R206
441	RD-8POT0103J	RES-CF, RD 1/8W 10K OHM J		R207
442	RD-8POT0103J	RES-CF, RD 1/8W 10K OHM J		R208
443	RD-8POT0103J	RES-CF, RD 1/8W 10K OHM J		R257
444	RD-8POT0121J	RES-CF, RD 1/8W 120 OHM J		R201
445	RD-8POT0121J	RES-CF, RD 1/8W 120 OHM J		R202
446	RD-8POT0121J	RES-CF, RD 1/8W 120 OHM J		R205
447	RD-8POT0123J	RES-CF, 1/8W 12K OHM		R229
448	RD-8POT0151J	RES-CF, 1/8W 150 OHM J TAB		R204
449	RD-8POT0182J	RES-CF, 1/8W 1.8K OHM J		R230
450	RD-8POT0182J	RES-CF, 1/8W 1.8K OHM J		R260
451	RD-8POT0220J	RES-CF, RD 1/8W 22 OHM J		R213
452	RD-8POT0220J	RES-CF, RD 1/8W 22 OHM J		R214
453	RD-8POT0220J	RES-CF, RD 1/8W 22 OHM J		R219
454	RD-8POT0220J	RES-CF, RD 1/8W 22 OHM J		R220
455	RD-8POT0220J	RES-CF, RD 1/8W 22 OHM J		R224
456	RD-8POT0220J	RES-CF, RD 1/8W 22 OHM J		R226
457	RD-8POT0221J	RES-CF, 1/8W 220 OHM J		R211
458	RD-8POT0221J	RES-CF, 1/8W 220 OHM J		R217
459	RD-8POT0221J	RES-CF, 1/8W 220 OHM J		R223
460	RD-8POT0470J	RES-CF, RD 1/8W 47 OHM J		R203
461	RD-8POT0820J	RES-CF, 1/8W 82 OHM J		R215
462	RD-8POT0820J	RES-CF, 1/8W 82 OHM J		R221
463	RD-8POT0820J	RES-CF, 1/8W 82 OHM J		R227
464	RD-8POT0821J	RES-CF, 1/8W 820 OHM J		R238
465	RD-8POT0821J	RES-CF, 1/8W 820 OHM J		R239
466	RD-8POT0821J	RES-CF, 1/8W 820 OHM J		R240
467	RS01P0T0472J	RES-MOF, RS 1W 4.7K OHM J		R249
468	RS01P0T0472J	RES-MOF, RS 1W 4.7K OHM J		R250
469	RS01P0T0472J	RES-MOF, RS 1W 4.7K OHM J		R231
470	RS02P0T0561J	RES-MOF, RS 2W 560 OHM J		R241
471	RS02P0T0561J	RES-MOF, RS 2W 560 OHM J		R243
472	RS02P0T0561J	RES-MOF, RS 2W 560 OHM J		R245

NO	RART CODE	DESCRIPTION	RANK	LOCATION
473	RS0290T0561J	RES-MOF, RS 2W 560 OHM J		R265
474	RS0290T0561J	RES-MOF, RS 2W 560 OHM J		R266
475	RS0290T0561J	RES-MOF, RS 2W 560 OHM J		R267

2-3. CAPACITORS

NO	RART CODE	DESCRIPTION	RANK	LOCATION
476	E44007010270	CAP-MCD, Z5U 50V 0.1UF Z		C216
477	E44007010270	CAP-MCD, Z5U 50V 0.1UF Z		C226
478	E44007010270	CAP-MCD, Z5U 50V 0.1UF Z		C232
479	E44007010270	CAP-MCD, Z5U 50V 0.1UF Z		C233
480	E44007010270	CAP-MCD, Z5U 50V 0.1UF Z		C234
481	E44007010270	CAP-MCD, Z5U 50V 0.1UF Z		C235
482	E44007010270	CAP-MCD, Z5U 50V 0.1UF Z		C236
483	E44007010270	CAP-MCD, Z5U 50V 0.1UF Z		C238
484	E44007010270	CAP-MCD, Z5U 50V 0.1UF Z		C239
485	E44007010270	CAP-MCD, Z5U 50V 0.1UF Z		C240
486	CC45CT1H151K	CAP-CD, NPO 50V 150PF K		C206
487	CC45CT1H151K	CAP-CD, NPO 50V 150PF K		C229
488	CC45CT1H330K	CAP-CD, 50V 33PF K		C208
489	CC45CT1H330K	CAP-CD, 50V 33PF K		C211
490	CC45CT1H330K	CAP-CD, 50V 33PF K		C213
491	CC45CT1H330K	CAP-CD, 50V 33PF K		C214
492	CC45CT1H820K	CAP-CD, NPO 50V 82PF K		C209
493	CE04BT1C220M	CAP-EL, SMS 16V 22UF M		C237
494	CE04BT1C471M	CAP-EL, SMS 16V 470UF M		C215
495	CE04BT1C471M	CAP-EL, SMS 16V 470UF M		C225
496	CE04BT1E100M	CAP-EL, SMS 25V 10UF M		C201
497	CE04BT1E100M	CAP-EL, SMS 25V 10UF M		C202
498	CE04BT1E100M	CAP-EL, SMS 25V 10UF M		C203
499	CE04BT1E100M	CAP-EL, SMS 25V 10UF M		C204
500	CE04BT1H3R3M	CAP-EL, SMS 50V 3.3UF M		C227
501	CE04BT2A100M	CAP-EL, SMS 100V 10UF M		C221
502	CE04BT2C010M	CAP-EL, SMS 160V 1UF M		C218
503	CE04BT2C010M	CAP-EL, SMS 160V 1UF M		C219
504	CE04BT2C010M	CAP-EL, SMS 160V 1UF M		C220
505	CE04BT2C4R7M	CAP-EL, SMS 160V 4.7UF M		C222
506	CE04BT2C4R7M	CAP-EL, SMS 160V 4.7UF M		C223

NO	RART CODE	DESCRIPTION	RANK	LOCATION
507	CE04BT2C4R7M	CAP-EL, SMS 160V 4.7UF M		C224
508	CE04BT2E010M	CAP-EL, SMS 250V 1UF M		C228
509	CK45BN3A103K	CAP-CD, 1KV 0.01UF K		C230

2-4. VOLUMES

NO	RART CODE	DESCRIPTION	RANK	LOCATION
510	E42015033020	V-SEMI, B200 OHM CET068C		VR201
511	E42015033020	V-SEMI, B200 OHM CET068C		VR202
512	E42015033110	V-SEMI, B20K OHM CET068C		VR203
513	E42015033110	V-SEMI, B20K OHM CET068C		VR204
514	E42015033110	V-SEMI, B20K OHM CET068C		VR205
515	E42015033100	V-SEMI, B10K OHM CET068C		VR206

2-5. COILS

NO	RART CODE	DESCRIPTION	RANK	LOCATION
516	E42019026010	BEAD INDUCTOR		L201
517	E42019026010	BEAD INDUCTOR		L202
518	E42019026010	BEAD INDUCTOR		L203
519	E42019001090	COIL PEAKING, 2.2UH 10%		L204
520	E42019001090	COIL PEAKING, 2.2UH 10%		L206
521	E42019001090	COIL PEAKING, 2.2UH 10%		L208
522	E42019001110	COIL PEAKING, 3.3UH 10%		L205
523	E42019001110	COIL PEAKING, 3.3UH 10%		L207
524	E42019001110	COIL PEAKING, 3.3UH 10%		L209
525	E42043007020	CONN POST, 3P 5267-03A		P205
526	E42043007030	CONN POST, 4P 5267-04A		P202
527	E42043007050	CONN POST, 6P 5267-06A		P201
528	E42043022010	CRT SOCKET, 29PAI HIGH-F		

3. CRT

NO	RART CODE	DESCRIPTION	REMARK
529	E4203302816S	M34KUP 35*05	HCM-437E/438E
530	E4203302807S	M34KUL 35*05	HCM-437EV/438EV

4. SELECTOR SWITCH

NO	RART CODE	DESCRIPTION	RANK	LOCATION
531	E4202702402	SWITCH SELECTOR		

SCHEMATIC DIAGRAM

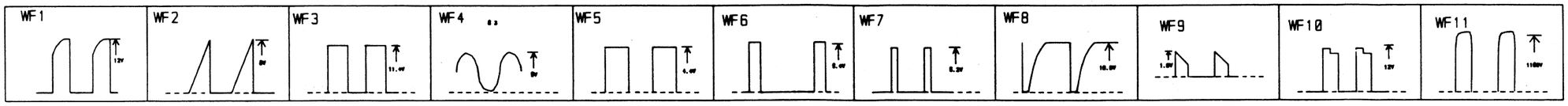
MODEL : HCM - 43XY

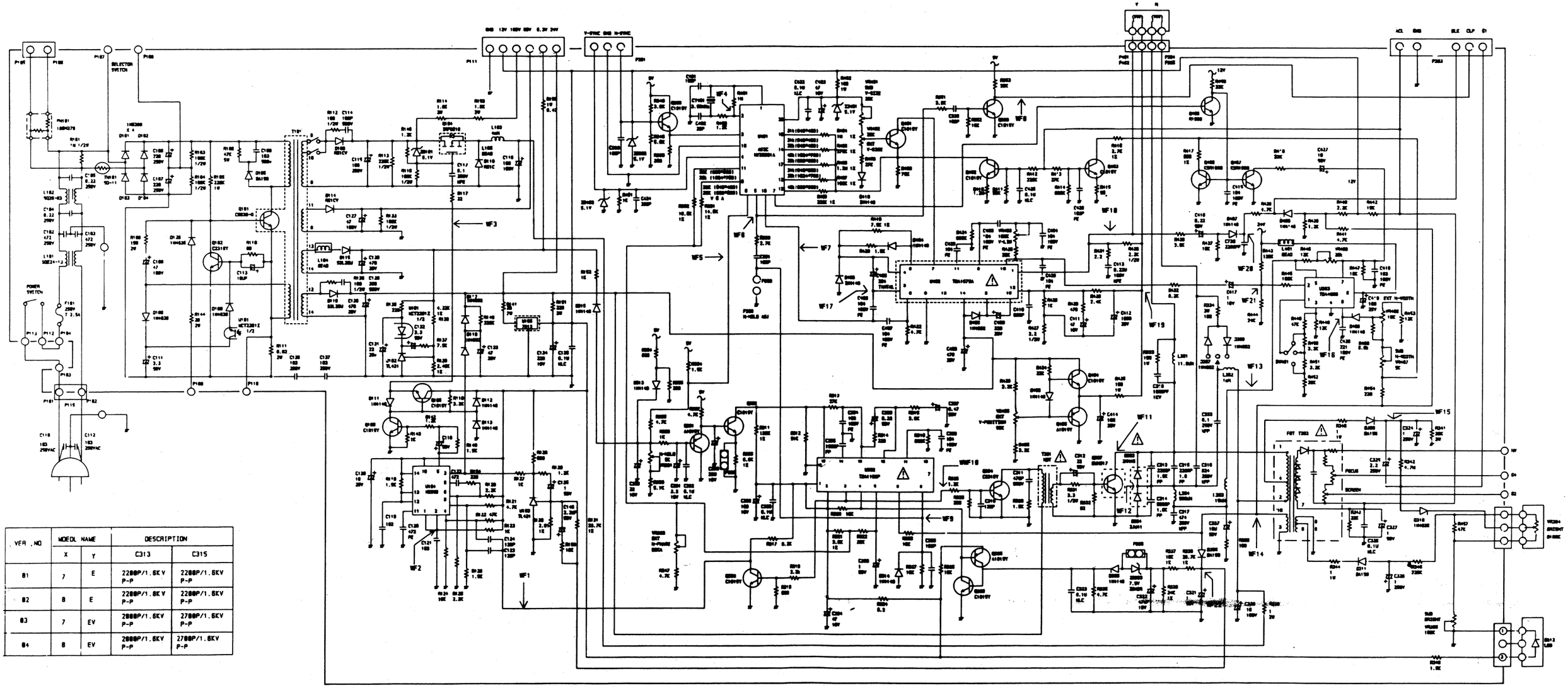
CHASSIS NO : C-1412

WARNING : THIS EQUIPMENT CONTAINS SAFETY CRITICAL COMPONENTS. ALL PARTS SHOWN THE ⚠ MARK OF THE SCHEMATIC ARE SAFETY CRITICAL. FOR CONTINUED SAFETY REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURERS RECOMMENDED EXACT REPLACEMENTS

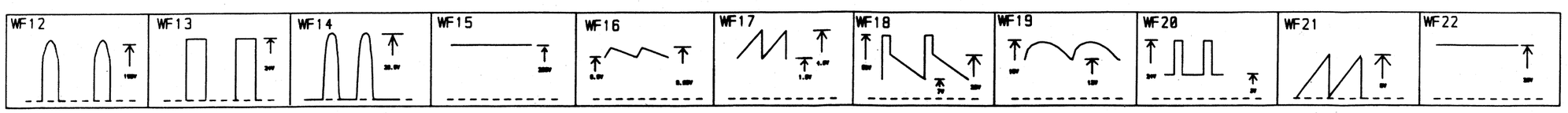
* NOTES *

1. ALL RESISTOR VALUES ARE IN OHM
K=1000, M=1000000 OHM
2. ALL RESISTORS ARE 1/4W EXCEPT INDICATED
3. CAPACITOR VALUES ARE PFUNLESS INDICATED





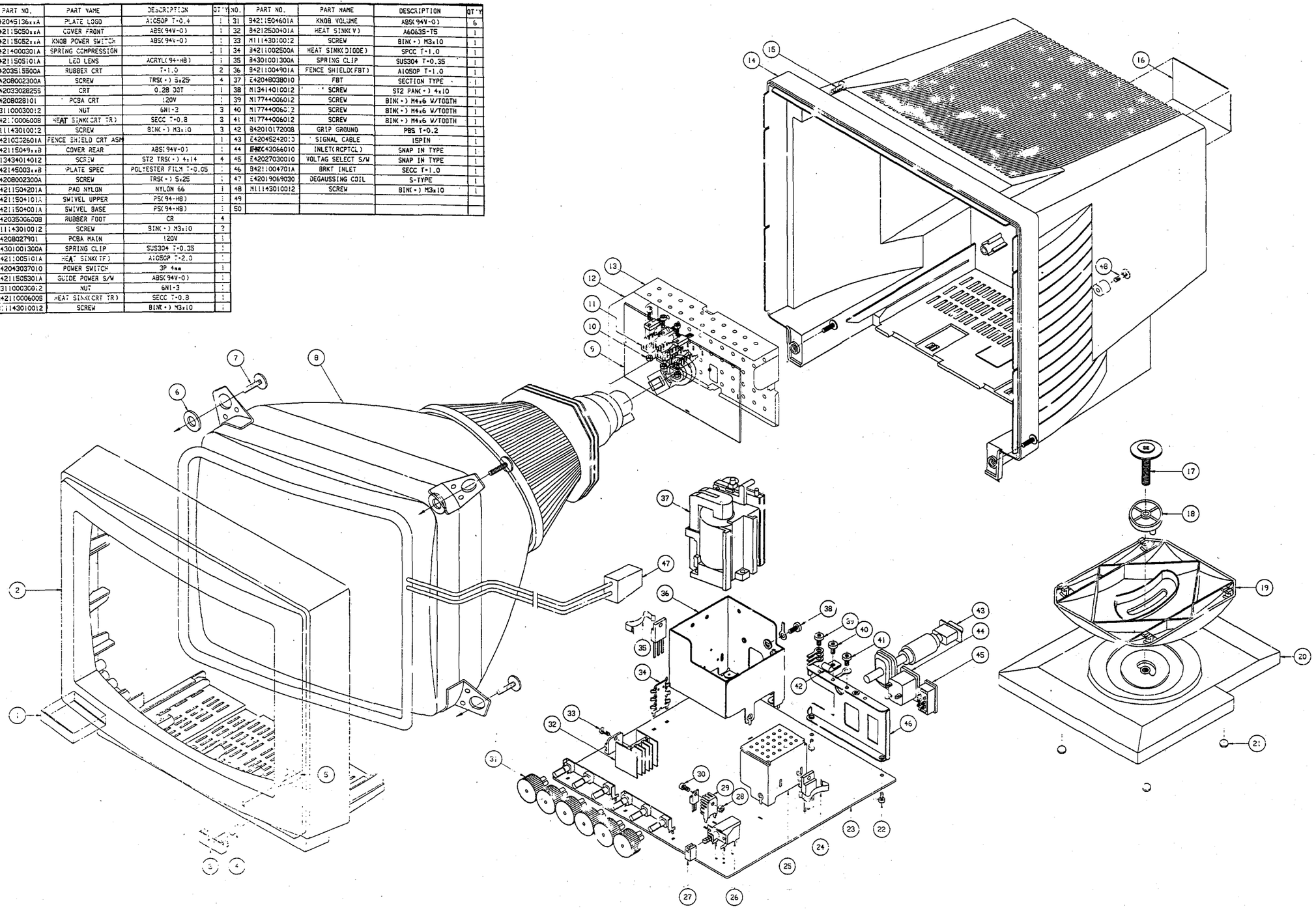
VER . NO	MODEL NAME		DESCRIPTION	
	X	Y	C313	C315
01	7	E	2200P/1.6KV P-P	2200P/1.6KV P-P
02	8	E	2200P/1.8KV P-P	2200P/1.8KV P-P
03	7	EV	2000P/1.6KV P-P	2700P/1.6KV P-P
04	8	EV	2000P/1.6KV P-P	2700P/1.8KV P-P



EXPLODED VIEW AND SWIVEL

NO.	PART NO.	PART NAME	DESCRIPTION	QTY
1	342045136xxA	PLATE LOGO	AIOSOP T-0.4	1
2	342115C50xxA	COVER FRONT	ABS(94V-0)	1
3	342115C52xxA	KNOB POWER SWITCH	ABS(94V-0)	1
4	342140003O1A	SPRING COMPRESSION		1
5	342115051O1A	LED LENS	ACRYL(94-HB)	1
6	342035155O0A	RUBBER CRT	T-1.0	2
7	342080023O0A	SCREW	TRS(-) 5x25	4
8	E42033028255	CRT	0.28 90T	1
9	E4208028101	PCBA CRT	120V	1
10	M3110003O012	NUT	6N1-3	3
11	342110006008	HEAT SINK(CRT TR)	SECC T-0.8	3
12	M1114301O012	SCREW	BIN(-) M3x10	3
13	342103326O1A	FENCE SHIELD CRT ASM		1
14	342115049xxB	COVER REAR	ABS(94V-0)	1
15	M13434014012	SCREW	ST2 TRS(-) 4x14	4
16	342145003xxB	PLATE SPEC	POLYESTER FILM T-0.05	1
17	342080023O0A	SCREW	TRS(-) 5x25	1
18	342115041O1A	PAD NYLON	NYLON 66	1
19	342115041O1A	SWIVEL UPPER	PS(94-HB)	1
20	342115040O1A	SWIVEL BASE	PS(94-HB)	1
21	342035006008	RUBBER FOOT	CR	4
22	M1114301O012	SCREW	BIN(-) M3x10	2
23	E4208027901	PCBA MAIN	120V	1
24	343010013O0A	SPRING CLIP	SUS304 T-0.35	1
25	342110051O1A	HEAT SINK(TF)	AIOSOP T-2.0	1
26	E42043037010	POWER SWITCH	3P 4A	1
27	342115053O1A	GUIDE POWER S/W	ABS(94V-0)	1
28	M3110003O012	NUT	6N1-3	1
29	342110006008	HEAT SINK(CRT TR)	SECC T-0.8	1
30	M1114301O012	SCREW	BIN(-) M3x10	1

NO.	PART NO.	PART NAME	DESCRIPTION	QTY
31	342115046O1A	KNOB VOLUME	ABS(94V-0)	6
32	342125004O1A	HEAT SINK(V)	A6063S-T5	1
33	M1114301O012	SCREW	BIN(-) M3x10	1
34	342110025O0A	HEAT SINK(DIODE)	SPCC T-1.0	1
35	343010013O0A	SPRING CLIP	SUS304 T-0.35	1
36	342110049O1A	FENCE SHIELD(FBT)	AIOSOP T-1.0	1
37	E42048038010	FBT	SECTION TYPE	1
38	M13414010012	SCREW	ST2 PAN(-) 4x10	1
39	M1774400601 2	SCREW	BIN(-) M4x6 W/TOOTH	1
40	M1774400601 2	SCREW	BIN(-) M4x6 W/TOOTH	1
41	M1774400601 2	SCREW	BIN(-) M4x6 W/TOOTH	1
42	E42045242010	SIGNAL CABLE	15PIN	1
43	E42C43066010	INLET(RCPTCL)	SNAP IN TYPE	1
44	E42027030010	VOLTAG SELECT S/W	SNAP IN TYPE	1
45	342110047O1A	BRKT INLET	SECC T-1.0	1
46	E42019069030	DEGAUSSING COIL	S-TYPE	1
47	M1114301O012	SCREW	BIN(-) M3x10	1
48				
50				



EXPLODED VIEW AND SWIVEL

NO.	PART NO.	PART NAME	DESCRIPTION	QT'Y	용 도
1	842045136**A	PLATE LOGO	AIOSOP T-0.4	1	플라스틱 로고
2	842115050**A	COVER FRONT	ABS(94V-0)	1	커버 프론트
3	842115052**A	KNOB POWER SWITCH	ABS(94V-0)	1	노브 파워 스위치
4	84214000301A	SPRING COMPRESSION		1	스프링 콤프레션
5	842115051O1A	LED LENS	ACRYL(94-HB)	1	엘이디 렌즈
6	84203515500A	RUBBER CRT	T-1.0	2	러버 어썰러
7	84208002300A	SCREW	TRS(·) S-25	4	스크류
8	E42033028255	CRT	0.28 DOT	1	어썰러
9	E4208028101	PCBA CRT	120V	1	피씨비에이 어썰러
10	M31100030012	NUT	6MI-3	3	너트
11	842110006008	HEAT SINK(CRT FB)	SECC T-0.8	3	히트싱크 어썰러 마양
12	MI1143010012	SCREW	BIN(·) M3-10	3	스크류
13	84210302601A	FENCE SHIELD CRT ASM		1	펜스쉴드 어썰러 어셈러
14	842115049**B	COVER REAR	ABS(94V-0)	1	커버 리어
15	MI3434014012	SCREW	ST2 TRS(·) 4-14	4	스크류
16	842145003**B	PLATE SPEC	POLYESTER FILM T-0.05	1	플라스틱 스펙
17	84208002300A	SCREW	TRS(·) S-25	1	스크류
18	84211504201A	PAD NYLON	NYLON 66	1	패드 나이론
19	84211504101A	SWIVEL UPPER	PS(94-HB)	1	스위블 어퍼
20	84211504001A	SWIVEL BASE	PS(94-HB)	1	스위블 베이스
21	84203500600B	RUBBER FOOT	CR	4	러버 풋
22	MI1143010012	SCREW	BIN(·) M3-10	2	스크류
23	E4208027901	PCBA MAIN	120V	1	피씨비에이 메인
24	84301001300A	SPRING CLIP	SUS304 T-0.35	1	스프링 클립
25	84211005101A	HEAT SINK(TF)	AIOSOP T-2.0	1	히트싱크 어썰러
26	E42043037010	POWER SWITCH	3P 4mm	1	파워 스위치
27	84211505301A	GUIDE POWER S/W	ABS(94V-0)	1	가이드 파워 스위치
28	M31100030012	NUT	6MI-3	1	너트
29	842110006008	HEAT SINK(CRT TR)	SECC T-0.8	1	히트 싱크 어썰러 마양
30	MI1143010012	SCREW	BIN(·) M3-10	1	스크류

NO.	PART NO.	PART NAME	DESCRIPTION	QT'Y	용 도
31	842115044O1A	KNOB VOLUME	ABS(94V-0)	6	노브 볼륨
32	84212500401A	HEAT SINK(V)	A6063S-T5	1	히트 싱크 브이
33	MI1143010012	SCREW	BIN(·) M3-10	1	스크류
34	842110025O0A	HEAT SINK(DIODE)	SPCC T-1.0	1	히트싱크 다이오드
35	84301001300A	SPRING CLIP	SUS304 T-0.35	1	스프링 클립
36	842110049O1A	FENCE SHIELD(FBT)	AIOSOP T-1.0	1	펜스 쉴드 어썰러
37	E42048038010	FBT	SECTION TYPE	1	어썰러
38	MI3414010012	SCREW	ST2 PAN(·) 4-10	1	스크류
39	MI7744006012	SCREW	BIN(·) M4-6 W/TOOTH	1	스크류
40	MI7744006012	SCREW	BIN(·) M4-6 W/TOOTH	1	스크류
41	MI7744006012	SCREW	BIN(·) M4-6 W/TOOTH	1	스크류
42	842010172008	GRIP GROUND	PBS T-0.2	1	그립 그라운드
43	E42045242010	SIGNAL CABLE	15PIN	1	시그날 케이블
44	E42043066010	INLET(RCPTCL)	SNAP IN TYPE	1	인렛
45	E42027030010	VOLTAG SELECT S/W	SNAP IN TYPE	1	볼테이지 셀렉터 스위치
46	842110047O1A	BRKT INLET	SECC T-1.0	1	브라켓트 인렛
47	E42019069030	DEGAUSSING COIL	S-TYPE	1	디가우싱 코일
48	MI1143010012	SCREW	BIN(·) M3-10	1	스크류
49					
50					

ZONE	LTR	ECR NO.	REVISION	DATE	APP'L

NO.	PART NO.	DESCRIPTION	MATERIAL	QTY	REMARKS

HYUNDAI ELECTRONICS

TITLE: EXPLODED VIEW

MODEL: HCM-428

SIZE: A1

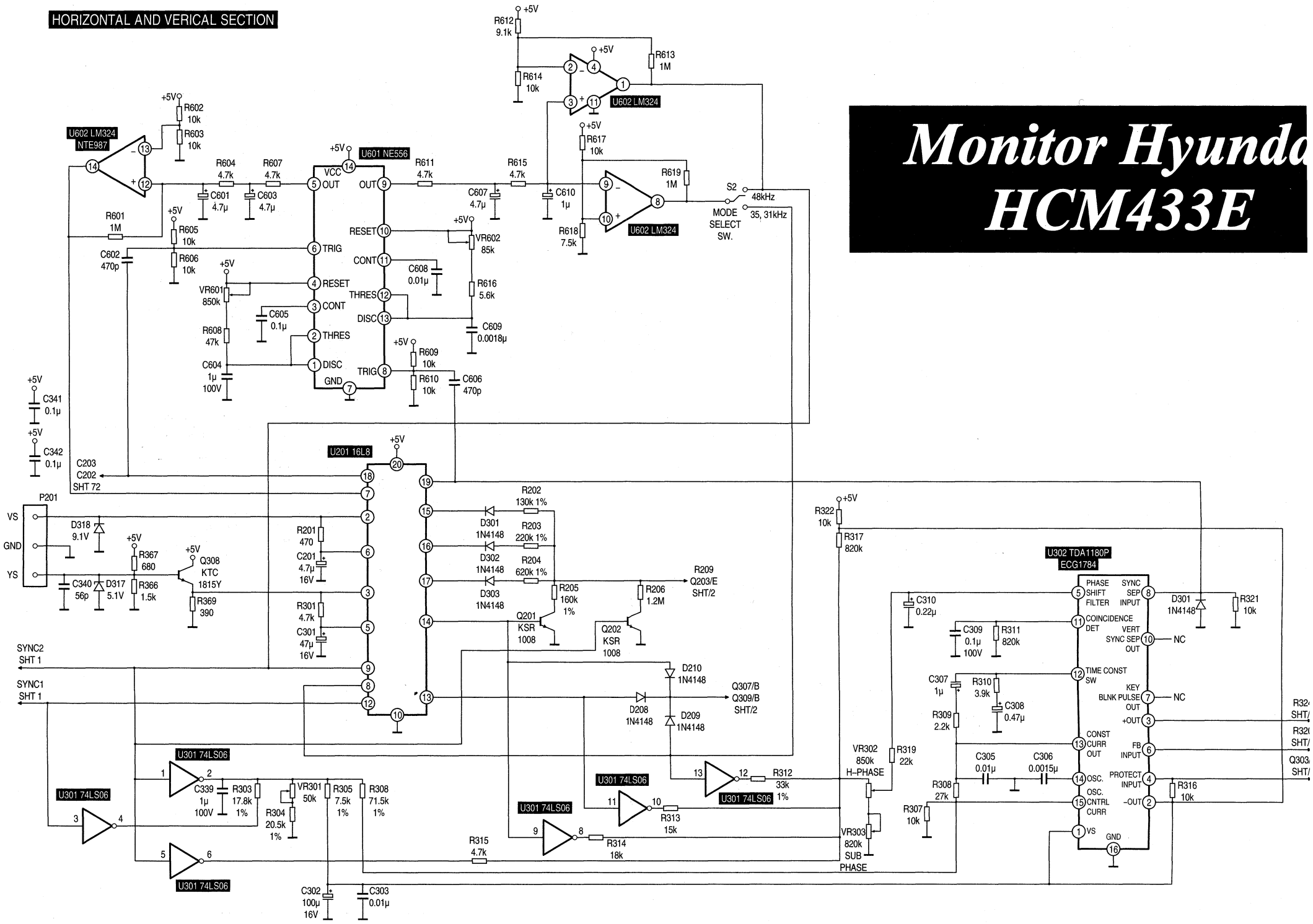
DWG NO. 84210001701A

REV

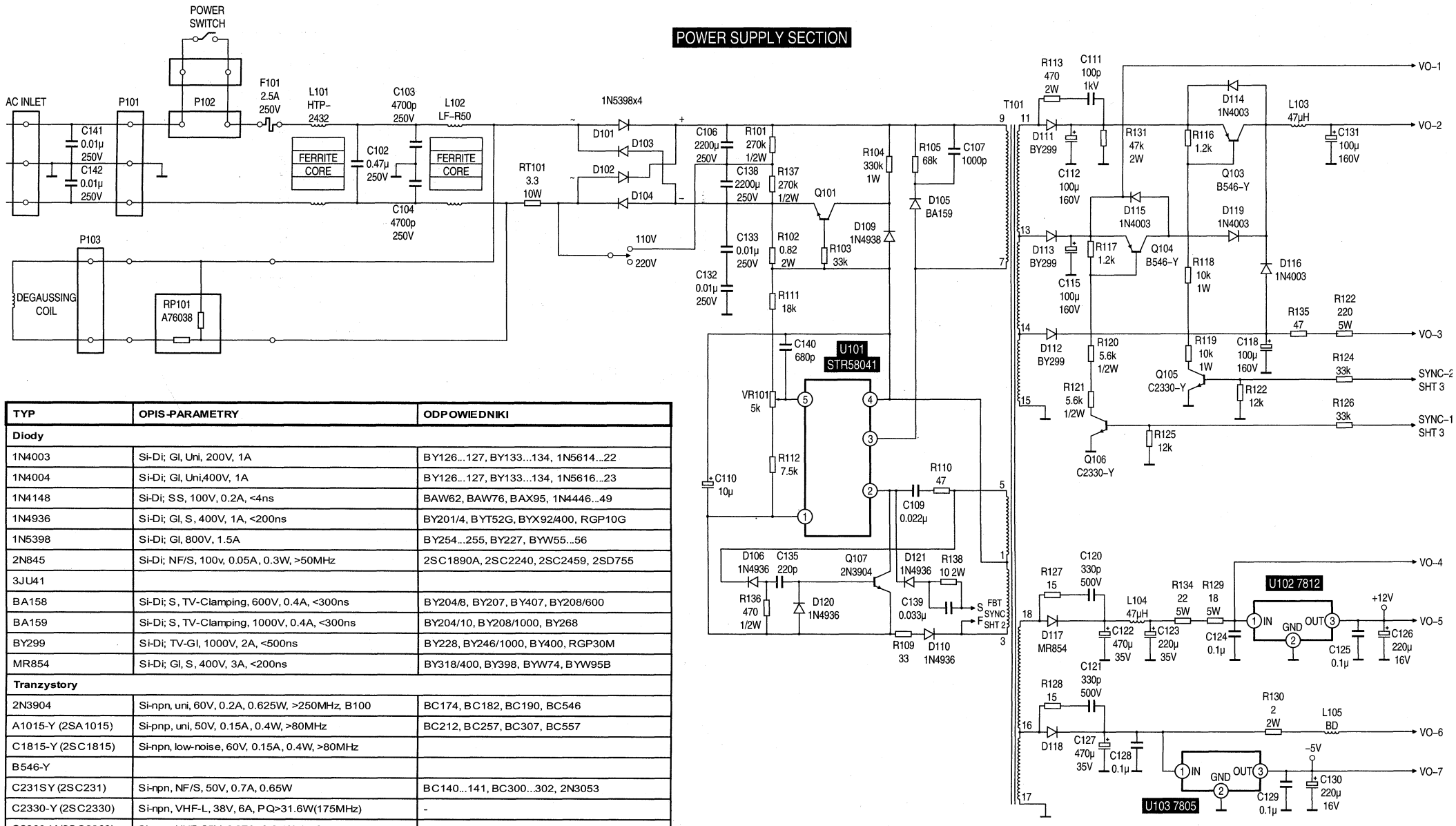
SHEET 1/1

Monitor Hyunda
HCM433E

HORIZONTAL AND VERICAL SECTION

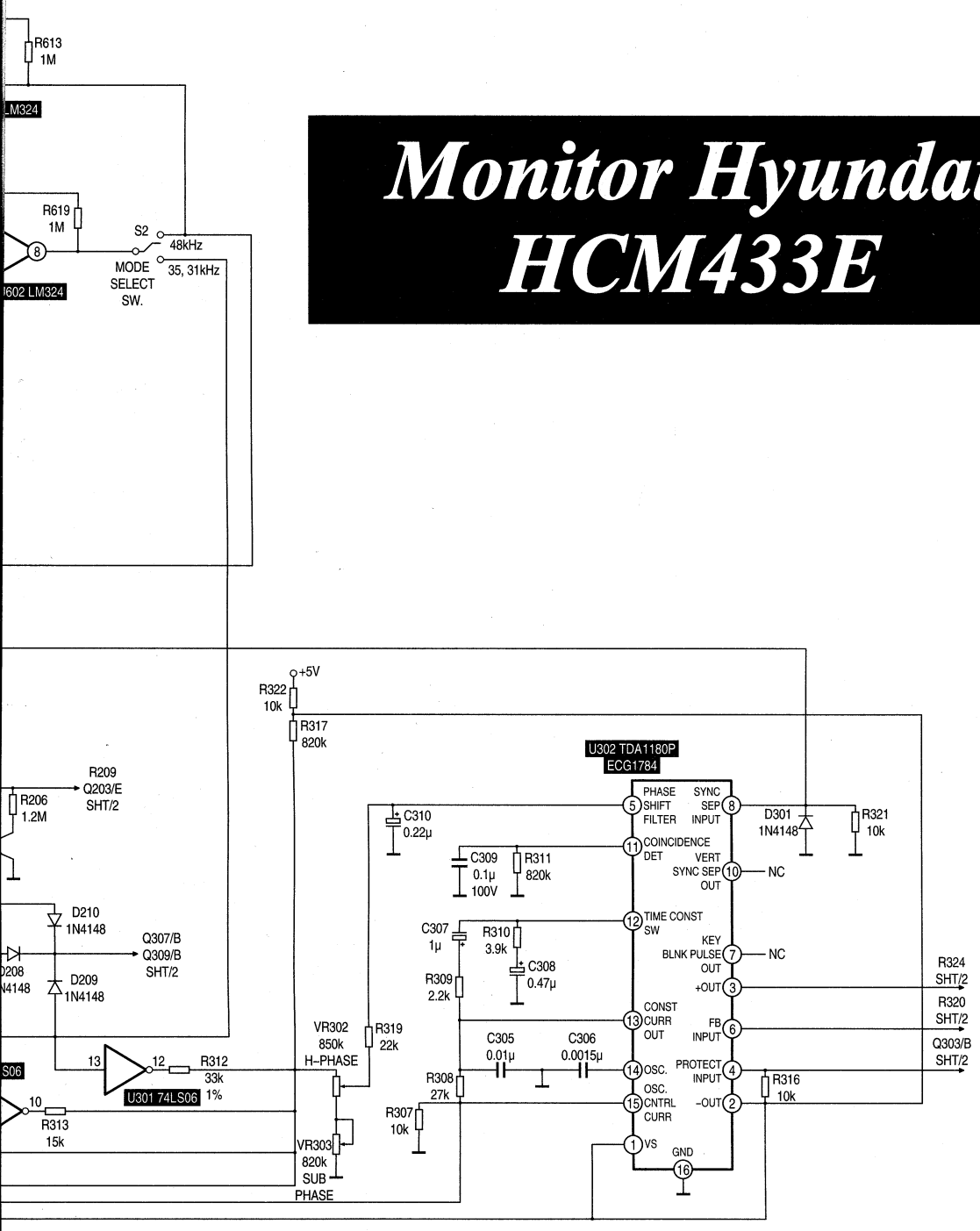


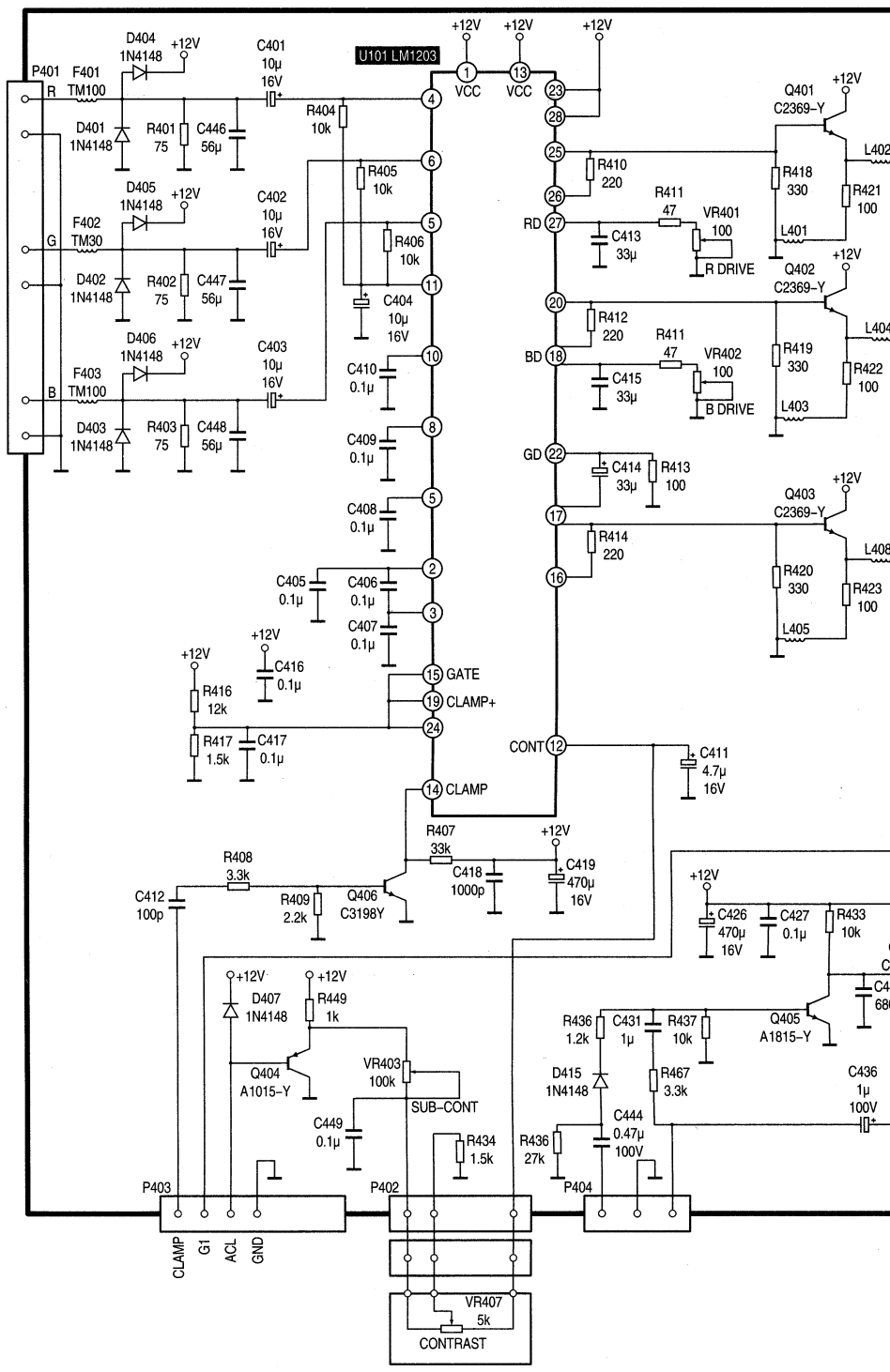
POWER SUPPLY SECTION

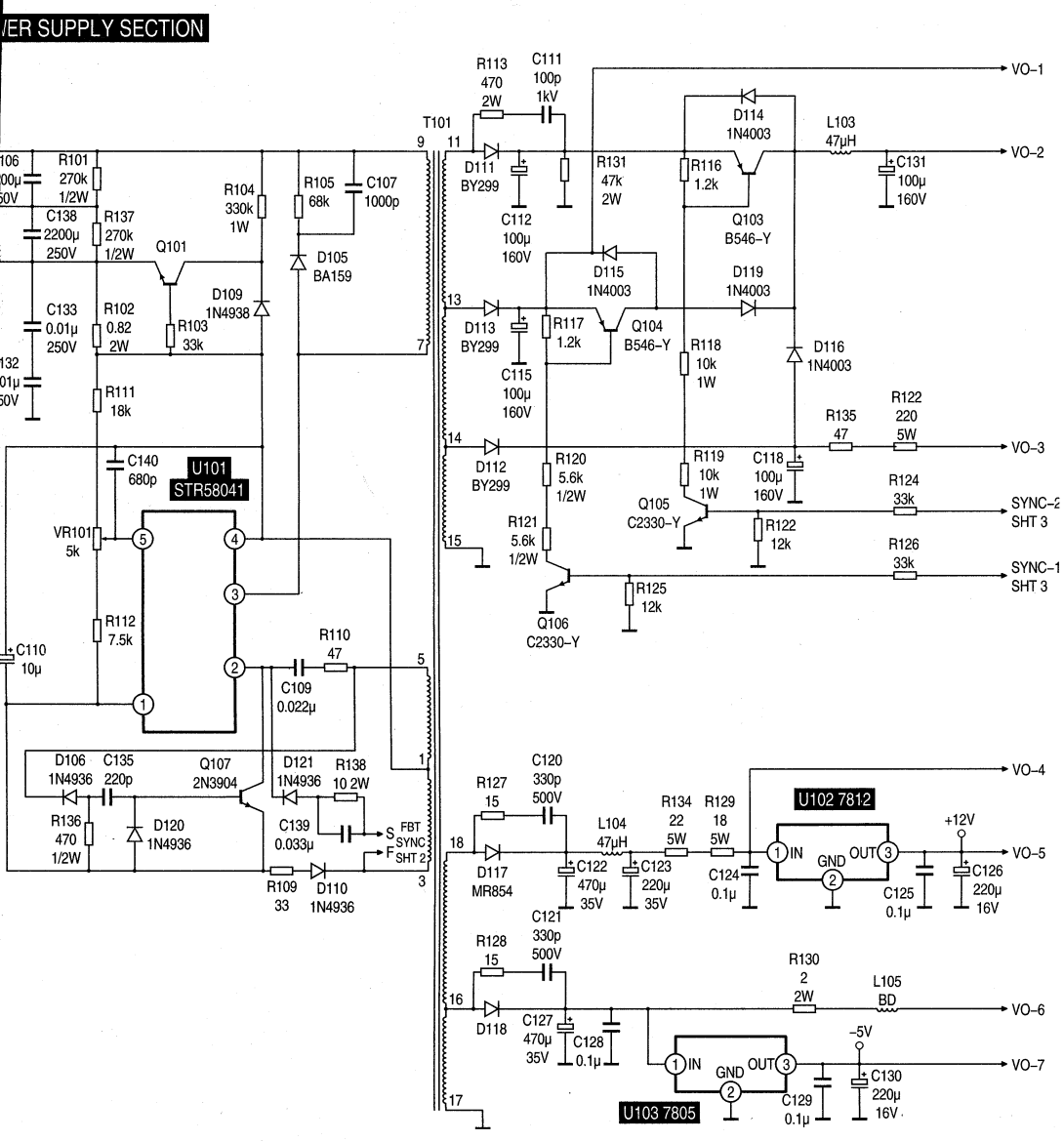


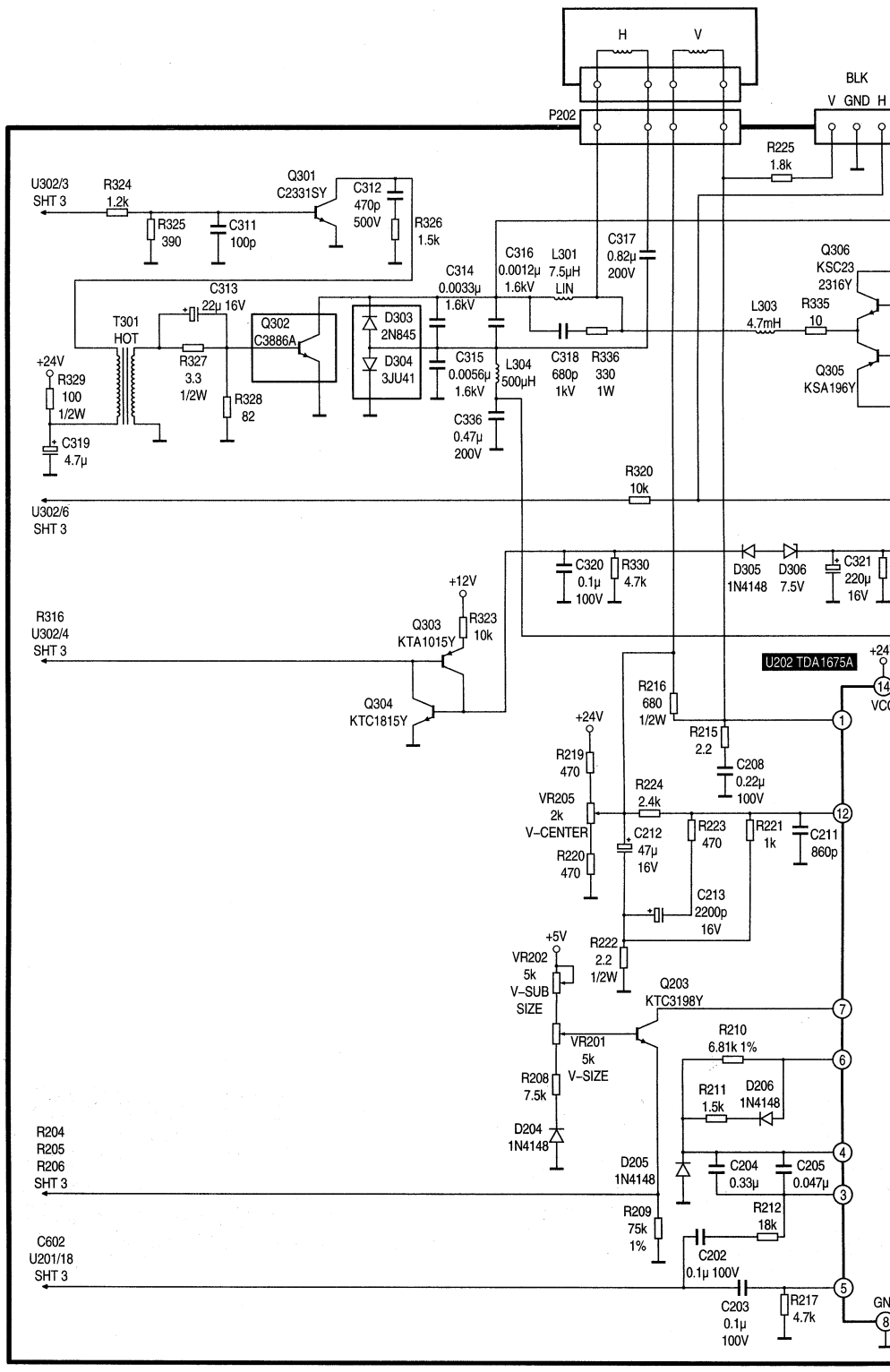
TYP	OPIS-PARAMETRY	ODPOWIEDNIKI
Diody		
1N4003	Si-Di; Gl, Uni, 200V, 1A	BY126...127, BY133...134, 1N5614...22
1N4004	Si-Di; Gl, Uni,400V, 1A	BY126...127, BY133...134, 1N5616...23
1N4148	Si-Di; SS, 100V, 0.2A, <4ns	BAW62, BAW76, BAX95, 1N4446...49
1N4936	Si-Di; Gl, S, 400V, 1A, <200ns	BY201/4, BYT52G, BYX92/400, RGP10G
1N5398	Si-Di; Gl, 800V, 1.5A	BY254...255, BY227, BYW55...56
2N845	Si-Di; NF/S, 100v, 0.05A, 0.3W, >50MHz	2SC1890A, 2SC2240, 2SC2459, 2SD755
3JU41		
BA158	Si-Di; S, TV-Clamping, 600V, 0.4A, <300ns	BY204/8, BY207, BY407, BY208/600
BA159	Si-Di; S, TV-Clamping, 1000V, 0.4A, <300ns	BY204/10, BY208/1000, BY268
BY299	Si-Di; TV-Gl, 1000V, 2A, <500ns	BY228, BY246/1000, BY400, RGP30M
MR854	Si-Di; Gl, S, 400V, 3A, <200ns	BY318/400, BY398, BYW74, BYW95B
Tranzystory		
2N3904	Si-npn, uni, 60V, 0.2A, 0.625W, >250MHz, B100	BC174, BC182, BC190, BC546
A1015-Y (2SA1015)	Si-pnp, uni, 50V, 0.15A, 0.4W, >80MHz	BC212, BC257, BC307, BC557
C1815-Y (2SC1815)	Si-npn, low-noise, 60V, 0.15A, 0.4W, >80MHz	
B546-Y		
C231SY (2SC231)	Si-npn, NF/S, 50V, 0.7A, 0.65W	BC140...141, BC300...302, 2N3053
C2330-Y (2SC2330)	Si-npn, VHF-L, 38V, 6A, PQ>31.6W(175MHz)	-
C2369-Y (2SC2369)	Si-npn, UHF, 25V, 0.07A, 0.25W, 4.5GHz	BFP96, BFQ73, 2SC2844, 2SC3302
C2482-Y (2SC2482)	Si-npn, TV-HA-Tr, 300/300V, 0.1A, 0.9W	2SC3468, 2SC4166
C3198-Y (2SC3198)	Si-npn, uni, low-noise, 60V, 0.15A, 0.4W, 130MHz	2SC1775(A), 2SC2240, 2SC2390, 2SC2459
C3886A (2SC3886A)	Si-npn, SN, HA, hi-res, 1500/600V, 8A, 50W	2SC3894, (BU508AF)
KSA196Y		
KSC23	Si-N, NF-Tr/E, 120V, 0.8A, 0.9W, 120MHz	2SC2235, 2SC2383, 2SD667, 2SD1665
KSR1008	Si-N+R; S, Rb=47kW, Rbe=22kW, 50V, 0.1A, 0.3W	AA1L4L, DTC144WS, RN1009, UN421E
KTA1015Y	2SA1015	2SA1015
KTC1815Y	2SC1815	2SC1815

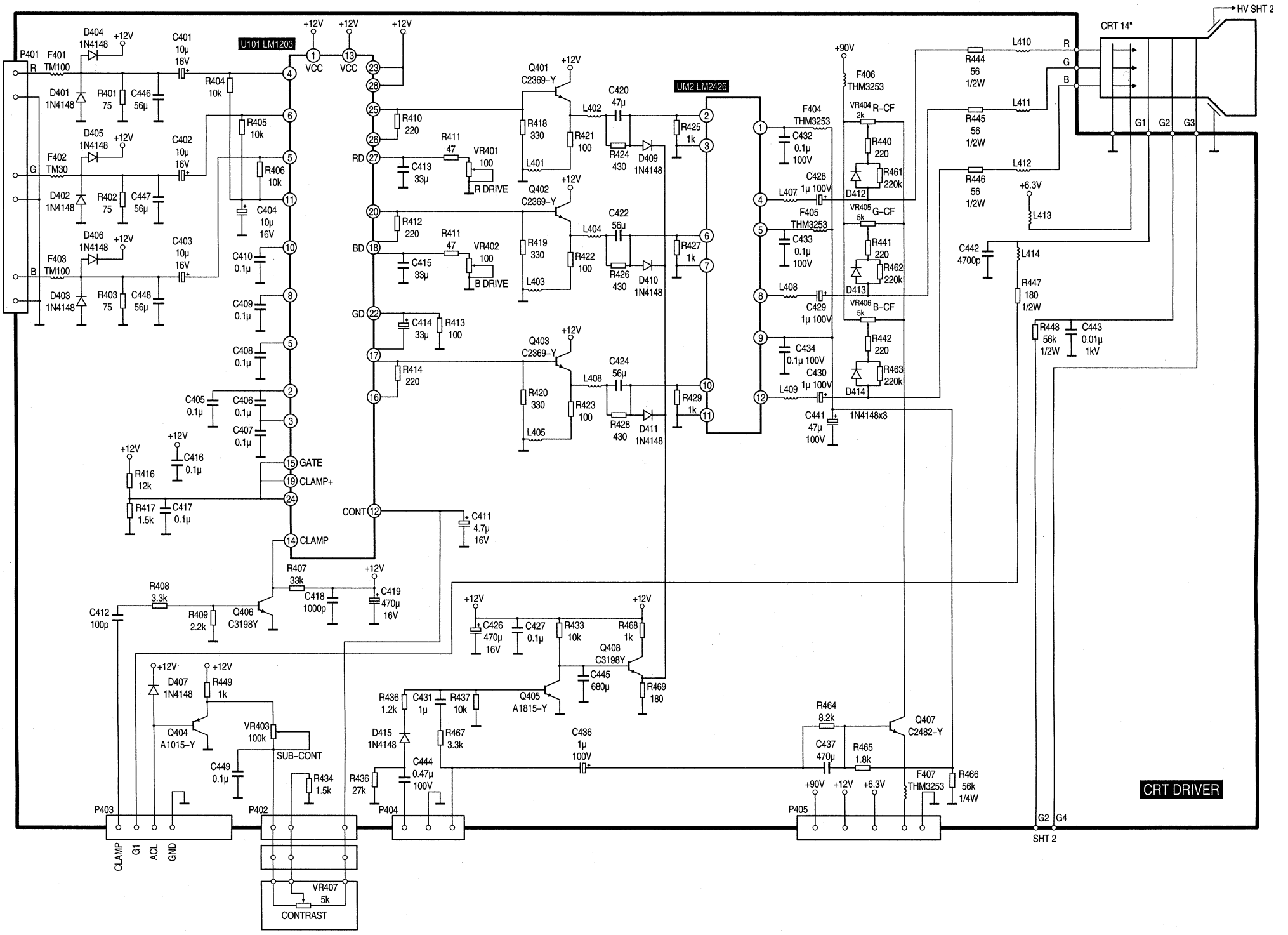
Monitor Hyundai HCM433E










U101 LM1203
UM2 LM2426
CRT 14"
HV SHT 2
CRT DRIVER
SHT 2
P401
P402
P403
P404
P405
CLAMP
G1
ACL
GND
SUB-CONT
CONTRAST
R DRIVE
G DRIVE
B DRIVE
R-CF
G-CF
B-CF
GATE
CLAMP+
CLAMP
CONT

FLYBACK SECTION
U202 TDA1675A
U303 TDA4950
T301 HOT
T302 FBT
P202
P203
P204
P205
BLK
SHT 2
SHT 3
SHT 4
U302/3 SHT 3
U302/6 SHT 3
U302/4 SHT 3
U201/19 SHT 3
U201/18 SHT 3
C602 U201/18 SHT 3
R204 R205 R206 SHT 3
R316 U302/4 SHT 3
HV
FOCUS
SCREEN
G4
G2
G1
CLP
ACL
GND
VCC
VR309 8100k BRIGHT
VR308 100k
VR312 50k KEY STONE
D316 LED
VR205 2k V-CENTER
VR202 5k V-SUB SIZE
VR201 5k V-SIZE
VR305 2k SUB-SIZE
VR306 1k H-SIZE
VR307 50k PC
VR304 3k H-CENT
VR402 100k V-LIN